

“THE BIRDS OF MESOPOTAMIA.”

BY

CLAUD B. TICEHURST, M.A., M.B.O.U., late Captain, R.A.M.C.

Assisted by

P. A. BUXTON, M.A., M.B.O.U., late Captain, R.A.M.C.

and

MAJOR R. E. CHEESMAN, M.B.O.U., 5th Buffs.

(With two plates.)

PREFACE.

During the late war a number of officers who were more or less interested in Ornithology found themselves in Mesopotamia, and thanks to the help and stimulus given by the Bombay Natural History Society, and especially by their Curator, Capt. N. B. Kinnear, considerable collections and observations were made, while Sir Percy Cox, the High Commissioner, gave great help in many ways.

It has been the aim of the Society to get together all the information available from the various members of the Force, and the collections they made, in order that as comprehensive a paper as possible on the Avifauna of Mesopotamia could be written for the use of present and future British residents in that country, and the Society has asked me to undertake the task of working out the collections and putting together this account, which I have had much pleasure in doing,—ably assisted by Major Cheesman and Capt. Buxton, without whose help this paper could not have been written.

The chief collections were formed by (1) Maj. Cheesman and Sir Percy Cox, (2) Capt. Pitman, (3) Capt. Buxton, while Major Ross, Lt.-Col. Bailey, Maj. Logan Home, Capt. Aldworth, Capt. Harrison, Capt. Armstrong, the writer and others contributed smaller numbers. The first two collections have been presented to the Bombay Natural History Society. Accompanying these collections were a number of observations and field notes, while others contributed also notes of varying amount and value. The list of contributors is as follows :—

Capt. T. P. Aldworth, D.S.O., 3rd Maj. Logan Home.

W. Kent.

Capt. J. Armstrong, R.A.M.C.

Capt. R. Bignell.

Capt. F. Ludlow.

Lt. A. St. G. Macdonald.

Lt.-Col. F. M. Bailey, C.I.E.	Lt.-Col. H. A. F. Magrath, 51st Sikhs.
Maj.-Genl. Sir F. Brooking.	The late Maj. G. A. Perreau.
Capt. Burgess.	H. St. J. Philby, Esq., C.I.E., Pol. Dept.
Capt. P. A. Buxton, R.A.M.C.	Capt. C. R. Pitman.
Maj. R. E. Cheesman, 5th Buffs.	Capt. G. D. Robinson.
Maj. J. Chrystal.	Maj. E. J. Ross.
Lt.-Col. F. P. Connor, I.M.S.	Lt.-Col. Stevens.
Maj.-Genl. Sir Percy Cox, G.C.I.E., K.C.S.I.	Capt. H. F. Stoneham, O.B.E., 1st E. Surrey.
Lt.-Genl. Sir R. Egerton.	
Maj. Fleming, D.S.O., Trench Mortar Brig.	Capt. C. B. Ticehurst, R.A.M.C.
Capt. W. Graham, R.A.M.C.	Lt.-Col. F. E. Venning.
Capt. L. Harrison, R.A.M.C.	Lt.-Col. F. Wall, C.M.G., I.M.S.
Capt. Hedgecock, Pol. Dept.	Maj. Wernicke.
Capt. R. W. G. Hingston, I.M.S.	Lt.-Col. Sir A. T. Wilson, C.S.I., C.I.E., D.S.O.
Capt. R. Hobkirk, 1st Manchesters.	
Lt. W. Hyatt.	Maj. Wimshurst, 5th Buffs.
Capt. C. M. Ingoldby, R.A.M.C.	Lt.-Col. H. S. Wood, I.M.S.
Capt. T. R. Livesey, Pat. Lancers.	Maj. Watts, 23rd Cavalry.
Maj.-Gen. H. D. Keary.	

To all these gentlemen the thanks of the Society are due for their help and co-operation.

The area covered by this paper is roughly from Mosul to Fao and from the Jebel Hamrin range to the Syrio-Arabian desert, and although over this large area there are a considerable number of observations and collections from many places, these have naturally followed the lines of war's progression, and there are parts where it so happened no one of ornithological tastes happened to be, notably on the Euphrates from Nasiriyeh to Hilla and from Feluja to Hit, and again in the North on the line Khanikin-Kifri-Kirkuk-Mosul, little was done, while Major Cheesman and Capt. Aldworth were the only ones to visit the latter city. This paper therefore, is not and cannot be the last word on Mesopotamian Ornithology, but is intended to be a ground work and book of reference for future workers. Defects and omissions there are bound to be, but it must be remembered that these observations and collections were made during war and often under extremely trying circumstances.

In order to make this account as complete as possible for our area, I have included or referred to anything which has been written in the past on the subject, and a full bibliography (for which I am indebted to the Rev. F. C. R. Jourdain) is appended. During the war a few notes have appeared in the B. N. H. S. Journal and in the "*Field* ; "

the latter were chiefly remarkable for the species the authors and no one else ever met with and some of them were, to say the least, highly improbable.

The working up of the notes of various observers has been no simple task; many notes were made in the trenches, or at least under active service conditions where baggage was reduced to a minimum, and were therefore not presented in a manner which lent themselves to easy abstraction. Furthermore, as was to be expected, many observers saw species which were quite new to them and mistakes in their identification were inevitable. Fortunately the collections contained specimens of the great majority of the birds which are known to occur in our area and so in many cases I have been able to correct wrong identifications; in other cases however, unless it is extremely probable or known that the species recorded does occur, in the absence of specimens I have omitted them or referred to them in the text. Names of places in the text mean the districts round those places.

In the letter-press it will be noted here and there that I have drawn attention to various points which require further elucidation, and it is to be hoped that any one who has the chance will make special efforts to throw light on the questions raised; I shall be at all times most willing to give any help or information to, or identify specimens for any one who cares to communicate with me, and I propose from time to time, as new facts accumulate, to add *addenda* and *corrigenda* to the Mesopotamian avifauna in the Journal.

Of each species I have given the English and Latin names and below these, as a trinomial, the names of the race or races of that species which I am satisfied occur in Mesopotamia; I have also added, as I think it may be of use, the original references and type localities to all, except to those species of which some, but at present undetermined, race occurs. In some cases (*e.g.*, some Waders and Ducks, etc.) for economy of space only the binomial name is given; either I have considered that no good races occur, or else are so remote from Mesopotamia that any but the typical race is unlikely to occur.

As regards the much vexed question of nomenclature it is now fairly widely agreed to start from the tenth edition of Linnæus, an ill advised procedure which for the time being has put nomenclature into a chaotic state; even the names of our British species, on which perhaps more study and discussion has taken place than on those of any other area, are not yet finally and indisputably decided on, while in some faunal areas hardly any revision has as yet been attempted.

Therefore it is needless to say that there is no up-to-date list (will any list ever be correct according to the present rules of nomenclature for more than six months after publication?!) which for our area we can follow. The hunting up of the latest published opinions, scattered throughout the ornithological literature of the world, on what various names should now be, entails more time than is at my disposal and if

accomplished would only produce a list which in a short time would be "out-of-date" again! However it is to be hoped that the nomenclature here used will at all events be understood by everyone and that after all is the only object of Latin nomenclature.

In working out the collections, I am greatly indebted to the facilities given me by the authorities at the British Museum (Natural History) and especially to Mr. N. B. Kinnear for the assistance he has given me in many ways. My thanks are due to Captains P. A. Buxton and J. Armstrong for the use of their collections, to Mr. Jourdain for notes on Mesopotamian eggs in his collection and to Miss M. Shopland, Miss D. Smith and Mr. F. W. Smalley for kind help in typing the manuscript.

The total number of specimens from all sources available for examination is about 2,500 comprising 241 species out of the 330 species known to occur.

C. B. TICEHURST.

LOWESTOFT, ENGLAND,

March 1st, 1921.

INTRODUCTION.

1. GEOGRAPHY.—The Mesopotamian plain, by which we mean that part of Mesopotamia which, between Fao in the extreme south and Fatah Gorge (where the Jebel Hamrin range crosses the Tigris) north of Baghdad, lies between the latter range on the east and the edge of the Syrian desert on the west, is remarkable above all things for its uniformity, or as some might put it, its extreme monotony. As one passes from Fao up the Shatt-al-Arab, there is seen what at first looks like a forest of date palms bordering the river banks; but where here and there a peep beyond is obtained, one realizes the "forest" is only a belt of trees a few yards up to two miles wide beyond which seems limitless mud desert. The uniformity of the land is essentially due to geological causes; the whole area is rich alluvial soil and consists of very fine silt brought down through long ages from the highlands of Eastern Asia Minor, Armenia and N. W. Persia. Over the country this silt has been spread to a depth of hundreds of feet and it follows therefore that underlying rocks exercise no influence on either the fauna or the flora. The surface of this alluvial deposit is practically flat except where it has been disturbed by the hand of man. This flatness is so extreme that it must be seen to be realized, but we may mention that the altitude of Baghdad is 112 feet above sea level though its distance from the sea is 360 miles, and Samarra 420 miles from the coast is but 200 feet in elevation; were the Kew flagstaff to be erected at Fao, the flag would float above the level of the entire Mesopotamian plain. On the very rough quarter inch maps, which were in use during the war, small mounds were marked, and their heights relative to the plain, were it only three or four feet, were indicated.

Through this alluvial plain run the two great rivers, the Tigris and Euphrates, with their tributaries, *e.g.*, the Karun in the south and the Dyala in the north, both loaded with silt at the time of the annual high water in the month of April. At this season the water of the rivers tends to overflow the whole country and much of it is led away over the surface of the ground for irrigation; most of the silt which it carries is deposited fairly near the rivers, and it therefore happens that the land nearest the river is generally very slightly higher than the land further from it. Long ago the waters of the Tigris entered the sea at a place

to-day marked by the ruins of the Median Wall between Beled and Samarra and now over 400 miles from the coast. The old estuary of the Euphrates would be about the same distance while that of the Karun was in the vicinity of Ahwaz. As the rivers raised the level of the delta, the sea was gradually forced back. In Assyrian times it is supposed to have reached Ur of the Chaldees on the Euphrates and to Amara on the Tigris; since then it has receded another 180 miles to Fao. The rivers when in flood, still rise above the level of the whole area and are kept more or less in their course by artificial banks.

In many parts there is fertile soil right up to the river banks on which wheat and barley are grown, while the cultivatable area could by a scientific irrigation be enormously extended. In places where the cultivation has lapsed for many years, the river banks may become covered with an almost impenetrable jungle consisting of *Acacia* (*Prosopis stephania*) and Liquorice (*Glycyrrhiza glabra*) waist high with bushes of Tamarisk (*Tamarix*), Poplar (*Populus euphratica*), Tea-tree (*Lyctum europæum*) and Bramble (*Rubus. sp.*). Similar jungle grows on one or two islands, especially that at Kharadah below Baghdad. Close to the river where water is abundant date palms (*Phoenix dactylifera*) are cultivated over large areas; there are also extensive vegetable gardens near towns which are planted with figs, apricots, peaches, apples, pomegranates, mulberries, limes and occasionally oranges.

In many parts of Mesopotamia, if one travels ten miles from the Tigris or Euphrates or one of the main effluent irrigation canals, one comes to parts which lie below the level of the corn land by a few feet. Such land is often temporary marsh and is quite dry and sunbaked by mid-summer. There is no boundary between these temporary marshes and the permanent ones, many of which contain huge areas of water which remains two to three feet deep all the year round, and grow crops of rushes and tall reeds; such marshes are the Hor Hawaize, parts of the Hamar Lake and the swamp at Nejef, while these at Suweikieh and Akkakuf and many others partake of a more temporary character.

Certain areas are low-lying but have no natural drainage; some of these patches are only a few acres in extent and are only "low-lying" by a few inches, others are much larger. In either case, flood and rain water accumulates here and evaporates, and gradually becomes salter and salter; at some seasons they are quite white with a saline incrustation. Some of these patches are completely devoid of vegetation, in others the succulent bush (*Sueda monoica*) grows freely.

Parts of the Mesopotamian plain, which are beyond the present reach of water and so practically devoid of vegetation in the summer months, may be said to consist of bare flat mud desert, and no stones or gravel are found in the plain proper.

About 50 miles above Baghdad the aspect of the country changes somewhat and one leaves the plain proper at the Median Wall. At 120 miles from Baghdad, the Jebel Hamrin range crosses the Tigris which passes through the range at Fatah Gorge. Between here and Mosul (our limit in this paper) is an undulating plain (700 feet) of gravel and stones covered with grass in the spring, and here and there along the river are cliffs 100 feet or so in height, similar to those which are also found between Samarra and Tekrit. The ground now rises more quickly and alluvium gives place to lime stones, gypsum, gravel and rocks. Lying above the highest river level, the land cannot be irrigated; a certain amount of "daim" or rain fed cultivation however, is carried on in the depressions where drought resisting wheat and barley are grown and obtain a small amount of water in addition to the actual rainfall from the shelving sides of the small hills. The low table land after winter rains is covered for a short period with grasses and flowers such as scabius, iris, delphinium and wild holly-hock, and is grazed over by the herds and flocks of roving tribes.

2. CLIMATE.—The average annual rainfall is six inches, which is confined to the months of December to April. The shade temperature rises to 120° or more

n July, and in January twelve degrees of frost have been registered. On the whole, one may say that the climate from November to April is well nigh perfect, and from May to September the reverse. The Shumaal or north wind commences to blow about the end of May and continues into July; it is welcomed as modifying the hot days but causes a certain amount of dust storm. Snow is not known in the plains but hail storms occur especially in spring. The tops of the Pusht-i-kuh Mountains hold snow till about May and are visible from the Tigris from Amara to Kut.

Tracing the Jebel Hamrin, a sandstone range, to the south-east, we find it forms a more or less continuous line of hills to Ahwaz and form as it were foothills to the great Pusht-i-kuh Mountains and also the eastern boundary of the Mesopotamian plain; this range runs up to 700-800 feet, while the Pusht-i-kuh Mountains, which are outside our area, run up to about 9,000 feet. The latter, however, exert a certain amount of influence on our area as not a few of the winter visitors to the plains pass the summer there and in the high table land of Persia which is cooler and better supplied with vegetation. The Jebel Hamrin range depends for its beauty on its colouring and except for a short period in spring, it is destitute of vegetation. It is a rugged country of hills and vales and includes the oil-fields at Maidan-i-Naptun on the east of the Karun.

3. DIVISIONS.—Although the Mesopotamian plain is so flat and uniform, it may, for purposes of zoo-geography and more particularly for the information of residents in the country, be divided into eight sub-divisions with three more outside the plains.

1. *The Seacoast and mud banks at the mouth of the Shat-al-Arab at Fao.*

A certain amount of information about the ornithology of this district was supplied by Mr. W. D. Cumming during his residence there in the eighties, but very little collecting was done there during the war and no description of the place has been given. There are enormous areas of swampy grass and mud banks more or less covered by high tide and probably many creeks and islets. In winter it is, of course, the happy hunting ground of vast numbers of Waders, Gulls, etc., while here the Pelican and Flamingo breed and the Reef Heron is resident. Of particular interest is the Khor Abdulla or Abdulla Banks. Armstrong, who while at Fao made enquiries concerning them, states that they are a group of rocks situated on the Arabian side of Fao and about 15 miles distant. They lie in an old channel of the Shat-al-Arab surrounded at low water by vast mud-banks, while between them there is a certain amount of silted mud and sand. It must be a big breeding ground certainly of the Crab Plover, while the Spoonbill, Pelican Reef Heron and perhaps other Herons are said to nest there. No Englishman has apparently visited them, except the Superintendent, Telegraphs, at Fao from whom this information is derived.†

2. *The edge of the Syrian and Arabian desert which lies on the right bank of the Euphrates and Shat-al-Arab.*

This consists of a sandy and gravelly table land gradually rising from 30 to 2,000 feet in altitude towards the centre of Arabia. This table land is very bare excepting in the spring and has very few birds; on migration, however, a fair number of birds visit such oases as exist as at Shaiba. Here occur as typical denizens the Bifasciated Lark (*Alaemon*), the Finch Lark (*Pyrrhuloxia*) and a Desert Lark (*Ammomanes*).

3. *Permanent marsh and reed areas, and temporary marsh.*

The Hamar Lake, Horr Sanef, Howaiza marsh are formed by the continuous overflow of the Euphrates, Tigris and Kerkha rivers into vast depressions just above tidal influence in the Kurna district are the most important of these in the south, and the Euphrates marshes round Museyib and the Nejef swamps in the middle of the plain. In winter, countless myriads of wildfowl immigrate here.

† Sir Percy Cox has visited these Rocks several times and the Society's Collection contains skins and eggs from there presented by Sir Percy. A note of these is being sent to Dr. Ticehurst: Eds.

The most frequently seen are Tufted Duck ; the Grey Lag and White-fronted are the common geese, while the Heron tribe is very well represented with Goliath Purple, Common, Night and Squacco Herons, Bitterns, Little Bitterns, Egrets, Ibis, etc., and Coots, Purple Gallinule, etc., swarm. In summer it would seem to be ornithologically not so interesting. Buxton travelled by canoe twice for two days across the Hor Hawezeh in July, and saw comparatively few birds. For two days he passed through gigantic beds of reeds, many of them 18-20 feet high, intersected by narrow channels of clear water, six feet deep in places ; there were no small birds in the reeds except close to land, where the Moustached Sedge Warbler was common, and the larger birds seemed to consist of nothing but Purple Coots, Pigmy Cormorants, Goliath Heron and Darters, but doubtless there were a few others such as Marsh Harrier and Purple Heron as in other lakes, and there is a certain amount of evidence that a few Grey Lag remain to breed, as certainly does the Marbled Duck, while in the Euphrates marshes around Museyib, the Avocet, Whiskered Tern and Black-necked Grebe, etc., nest.

Temporary lakes are frequently formed by the spill of the rivers in flood such as at the Unal Brahm and Akkarkuf, etc. These are large open sheets of water affording a haven in winter for water fowl and waders generally, but under the influence of the spring sun, dry up quickly and on the receding mud waste, Common and Lesser Terns, Kentish and Little Ringed Plover and White-tailed Lapwing breed in numbers ; the Stilt on the more swampy parts.

4. *Date and Fruit Gardens.*

These are the haunts of the tree loving species to which in Mesopotamia, little alternative exists. Among the resident birds are the Wood Pigeon, Persian Crow, Indian Ringed Dove, Babbler and Bulbul, while the Indian Roller is restricted to the Shat-al-Arab area. In winter come the song Thrush, Persian Robin, Isabelline Shrike, *Phylloscopi*, etc., while the tall date palms are resorted to for roosting by countless Rooks, Starlings, Black Kites and Night Herons. In summer come to breed the Olivaceous Warbler, Nightingale, Grey-backed Warbler, Persian Turtle Dove and Yellow-throated Sparrow (*Gymnorhis*), etc., and many passage migrants halt here. One day every bush is full of *Phylloscopi*, another every pomegranate bush holds Woodchat or Red-backed Shrikes or the bean fields are full of Great Reed Warblers.

5. *The Corn Lands.*

In winter, this is the haunt of Rooks, Jackdaws, Stock and Rock doves which feed on the newly sown corn ; the Crested Lark is ubiquitous and resident ; Sky, Wood and Short-toed Larks, House and Spanish Sparrows are to be seen in flocks in winter while the Pallid Harrier and Kestrel particularly affect this type of country. As the corn grows high, various migrants may here be found such as the Sedge Warbler, Lesser White-throat, etc. During irrigation in winter and early spring, numbers of Wagtails and Meadow, Water and Red-throated Pipits haunt the wettest parts.

In the summer, after harvest, the Large Pin-tailed Sandgrouse in immense numbers, and the Spotted Sand Grouse in small numbers breed in and round the corn lands.

6. *The Rivers and low Scrub Jungle along the banks.*

In winter, the White Wagtail, Green Plover, Green and Red Shanks and Common Sandpiper are among the familiar winter visitors, while the Common, Pied and White-breasted Kingfishers, Red-Wattled Lapwing are resident and breed. In winter too, many Gulls (*L. cachinnans* and *ridibundus*) may be seen far up the river inland, as well as Gull-billed, Little and Caspian Terns, while among the ducks, the Smew and Golden-eye seem to show a predilection for the rivers themselves.

In the scrub and scrub jungles which only exist in the vicinity of rivers and canals, the Black Partridge or Francolin is a characteristic bird, as also are Meneries Warbler, Streaked Wren Warbler, and here and there (as a summer visitor) the Grey Hypocolius and Scrub Sparrow, while in winter, these last are joined

at roost by hordes of Spanish Sparrow. Here, too, in winter may be seen Blue Throats, Robins, Black Redstarts, etc., and the few Finches which occur, such as the Goldfinch, Chaffinch, Eastern Linnet and rarer still the Red-fronted Finch (*Metaponia*) and Crimson-winged Bullfinch (*Rhodospiza*).

7. *Uncultivated land beyond the irrigated area.*

The dwellers in this desolate region are few; MacQueen's Bustard breeds there while the Norfolk Plover and Cream-coloured Courser have been seen in the breeding season in pairs, and almost certainly breed. Here, too, may be found the Pratincole in colonies, while the Blue-cheeked Bee-eater makes its burrows into the flat surface, choosing places with a sandy subsoil. In winter a few Eagles Long-legged Buzzards, odd Isabelline and other Wheatears and occasionally the Desert Warbler are almost the sole occupants to be seen on a long day's journey.

8. *Towns and Buildings.*

The House Sparrow must take premier place and is a resident everywhere. The White Stork nests on the houses and mosques in Baghdad and northwards. The Barn Owl is a local resident, while the Kestrel and probably also the Lesser Kestrel utilize suitable buildings. The Eastern Swift (*C. murinus*) breeds in most of the larger towns. The Swallows are summer visitors and breed in most of the houses, while their nests built on the tent poles were an annual feature of the canvas camps. The Rock Dove inhabits the towns and ruins, such as at Ctesiphon, in numbers, and enjoys an immunity from persecution from the Mahomedans by living in the sacred mosques; the flocks of unmixed blue are one of the beauties of Baghdad and it is hoped it will be long before the nondescript breeds of the fancier appear and convert them into the mongrel pigeon communities usually seen.

This concludes the subdivisions of the great alluvial plain; above this and always above the highest level of the rivers we have:—

1. *Undulating table land.*—Here on the rolling plains of gravel and grass such as between Fatah Gorge and Mosul, the Calandra and Short-toed Larks which spread out in winter to lower parts, retire to nest; in suitable spots the Desert Lark (*Ammomanes*) is resident. In the cliffs where the river has cut its way through the hills of conglomerate rocks, Bonelli's Eagle, Long-Logged Buzzard, Egyptian Vulture and Raven breed. The See-See (*Ammoperdix*) is not uncommon on the rougher ground, and is, of course, resident.

Here, too, is one of the breeding places of the Brahminy Duck. On the vast grassy plains, the Great Bustard is to be met with round Kirkuk and Mosul and was not uncommon when these places were first occupied.

Correspondingly similar places are to be found at Shahroban on the Diala, at Ahwaz on the Karun, and somewhere above Fehuja on the Euphrates.

2. *Foothills of the mountains 900—1,500 feet from Mosul to Ahwaz.*—Cheesman and Buxton were about the only observers who visited these rugged hills and they found very few species there but as might be expected a few species occur there which are not found elsewhere, the Red-rumped Swallow and Rock Nuthatch were apparently resident as also is the Chukar in suitable places, while Hume's Chat was also obtained here. The Pusht-i-kuh Mountains are outside our area; they include the Zagros referred to by Zarudny.

P. A. B.

R. E. C.

4. *MIGRATION*—A feature of the avifauna of Mesopotamia is the small number of resident species in contrast to a long list of migrants and winter visitors. In fact one might mention places where there is but one resident—the crested lark. During the spring and autumn migrations, even these desolate spots are thronged with bird life undertaking the great pilgrimage, either staying a while to rest or feed, or merely passing over. The small oasis, such as Shaiba, on the edge of

the Syrian and Arabian deserts, provide more favourable opportunity for bird migration study than would a much frequented island in mid-ocean, to which the oasis in a reverse sense corresponds. The few tall tamarisk or palm trees can be seen for long distances across the thirsty sand-waste and promise shade and a refresher at the wells. Here taking advantage of the scantiest vegetation or shelter, the most unexpected species in such a region were encountered, as land-rails, moorhen and the nightingale; next day these had departed, their place being taken by wagtails, flycatchers, cuckoo, blackcap and white-throat, and so in even changing procession until the last one had passed and the small plantation settles down to its normal aspect—the home of a pair or two of crested larks.

Mesopotamia lies in one of the great migration routes of the Palearctic birds (a geographical division of the bird kingdom to which the English birds also belong). This division roughly comprises Europe and N. Asia. The Southern boundary line passes along the Persian coast and at Fao strikes across the Syrian desert to the Gulf of Akaba. Most of Arabia at all events, is in the Ethiopian or African region.*

Palmen suggested several routes by which most Palearctic birds travel to and from their summer quarters. It is only necessary to give one here, but as a matter of interest we will include route A which "leaving the Siberian shores of the Polar Sea passes down the west coast of Norway to the North Sea and the British Isles" thence through France and Spain to Africa, in some cases far south in Africa. The route affecting this paper is route D, Starting from the extreme north of Siberia it ascends the river Ob and branches out near Tobolsk, one track diverging to the Volga, descends that river and so passes to the sea of Azov, the Black Sea and thence by the Bosphorus and Aegean to Egypt; another track makes for the Caspian by way of the Ural river and so leads to the Persian Gulf. The latter branch is that which passed twice a year over the Mesopotamian Expeditionary Force, mostly following the line of the three large rivers, Tigris, Euphrates and Karun, though doubtless many birds also make their way through the valley and passes of the mountains of Kurdistan and Luristan.

During the war, our stay in any one locality was always brief, our own migrations were frequent and time was occupied in other directions and so our knowledge of migration is too scanty to do more than roughly indicate what possibly happens. However our observations at the oasis of Shaiba led us to believe that these birds which leave Mesopotamia for the winter pass on into Arabia and most of them presumably cross the Red Sea to find winter quarters in Africa. The centre of Arabia is unfortunately *terra incognita* ornithologically. The normal autumn migration at Shaiba was moving in a south to south-west direction and if these courses were held they must either go straight across Arabia or possibly strike the Persian Gulf somewhere near Kowit and perhaps coast along before striking across this continent. An exception to this general direction was noticed at Shaiba in the case of the yellow wagtails, flocks of which were seen on several consecutive days flying low over the desert in a *North-easterly* direction which would bring them to the Shat-al-Arab near Busra. The only explanations of this

* Where one should draw the boundary of the Palearctic and Ethiopian regions cannot be determined as yet, until the fauna of Central Arabia is known and that of the Arabian shore of the Persian Gulf. Palestine, in spite of its few Ethiopian forms must certainly be considered Palearctic and so must Sinai; Hedjaz and Yemen on the other hand partake of an Ethiopian character. Mr. H. St. J. Philby, C.I.E., who has recently visited the Washm Province of Central Arabia informs me that he met with a grey Partridge there, probably *Francolinus pondicerianus*, an exceedingly interesting fact, as hitherto it was only known from Mascat in the Arabian continent. Mr. Philby knows the Black Partridge and See-See well and is quite certain his birds were not these.—C.B.T.

would seem to be that having "made" the oasis of Shaiba and found nothing but limitless bare desert beyond, they had decided to make the river again and coast on up the Gulf and cross inland elsewhere.

Besides the general north to south, south to north migrations there must be, we think, with some species, an east and west migration and *vice versa*, by which such species as the Blackheaded Bunting and Rosy Pastor reach their breeding grounds but details of this we know little of. There are, of course, too many local migrations as with the Pintailed Sand Grouse, which probably are influenced by food supply, and those of the Gulls and Terns moving to their breeding grounds.

It should not be inferred, of course, that the majority of birds make the complete journey from the far north through Mesopotamia to Africa; comparatively few attempt this, and our migrants may be roughly grouped into the following divisions:—

- A. There are some which breed in the far north and in winter come no further south than the Caspian; as example of this is the Redwing.
- B. Others nesting north of Persia come further south and winter in Mesopotamia such as many of the ducks and waders, some of the Pipits, the Short-eared Owl, Siberian Chiffchaff, and Dark-backed Herring Gull.
- C. Others nesting north of Persia are passage migrants through Mesopotamia and winter in Africa such as many of the Cuckoos, Swallows, Warblers, Wagtails.
- D. Another group nesting in Persia merely descend to the Mesopotamian plains to winter, among them are the Imperial Sand Grouse, Wheatears of several species, Persian Robins, Sharpe's Crow, Black Kite, Griffon, Vulture, etc.
- E. Another group are summer visitors to Mesopotamia and go in some cases hardly north of this, and winter in Africa, such as the Blue-checked Bee-eater.

R. E. C.

5. CHARACTER OF THE AVIFAUNA—This is undoubtedly Palearctic, the majority of the breeding species belonging to Palearctic genera, such as *Ædon*, *Hypolais*, *Sylvia*, *Passer*, *Pica*, *Acrocephalus*, *Melanocorypha*, etc., but a few Indian species have spread west along the Persian Gulf as far as Mesopotamia, such as *Coracias benghalensis*, *Pycnonotus leucotis*, *Prinia lepida*, *Porphyrio poliocephalus*, *Gymnorhis flavicollis*, *Sarcogrammus indicus*, *Gallinula c. parvifrons*. In winter and on the migrations, Mesopotamia is the meeting ground of East and West; thus we may find *Phylloscopus collybita*, *tristis*, and *trochilus* all frequenting the same bushes; *Calandrella minor minor* and *m. heinei* associating in the same flock; *Phaenicurus phaenicurus* and *ph. mesoleuca*; *P. ochruros* with *phaenicuroides*; *Saxicola r. rubicola* with *maura*; *Turdus merula syriacus* with *intermedius*; while *Streptopelia turtur arenicola* comes to breed, *S. t. turtur* is a passage migrant through the country. So too one finds different races passing through to reach their different breeding grounds in the north, such as *Motacilla f. thunbergi* in the far north, *campestris* and *dombrowskyi* to further south of this and so on. Here too in Mesopotamia probably is the meeting ground, roughly speaking, of the breeding areas of some closely allied races, as of the Blue Rock Thrush, See-See, Little Owl, Swallow, etc., but details of this cannot yet be worked out.

On the other hand Africa supplies a few birds such as *Th. aethiopicus*, *Plotus rufus*, *Ceryle rudis* while *Phyrhulauda frontalis*, *Dromas ardeola*, *Alaemon alaudipes*, *Podiceps capensis* and *Pterocles lichtensteini* are Indo-African species.

Of widely distributed species it will be found generally that it is an eastern race which visits Mesopotamia in winter and on passage, and besides receiving migrants from Persia and the far north many must come from far more eastwards

such as *Alauda dulcivox*, *Anthus s. blakistoni*, *Calandrella m. heinei*, *Caprimulgus e. zarudnyi*, *Falcoe. pallidus*, etc., while there is no definite evidence of any coming from the far north-west.

As one might expect from the character of the country some genera and families are well represented while others are not, thus the Gulls, Terns and Waders are to the fore, as also are the desert birds, while Shrikes, Larks and Wheatears can claim at least eight forms each; Woodpeckers, Creepers, Tree Nuthatches are as to be expected quite absent and of the Tits one species is found in one corner only and another (*Anthoscopus*) is a rare visitor. It is somewhat curious considering the abundant food supply during the war that Vultures should be so scarce; only two species occur with any regularity and then not commonly.

Part of Mesopotamia has, of course, only emerged from the sea within historical times as already explained, but it is somewhat remarkable that so few forms have segregated out into recognizable geographical races more or less peculiar to the country and it shows what a long period of colonization is necessary sometimes for differentiation to take place, thus the *Prinia*, *Pica*, *Sarcogrammus Porphyrio*, *Alcedo*, *Crateropus caudatus*, *Coracias benghalensis* and probably the *Cisticola* are in no way differentiated from the Indo-Baluchi forms, while the *Ammodramus*, *Passer domesticus* and *Passer moabiticus* are in no way separable from the Palestine forms. Of European forms we have *Sterna minuta*, *Hirundo rustica*, *Riparia riparia*, *Agialitis curonica* and *alexandrinus* and *Hypolaïs elatica* but most of these are of wide distribution and great migrants. So far as we know, the only species which have segregated out into recognisable races are *Ammodramus griseogularis*, *Francolinus vulgaris*, *Corvus capellanus*, *Alectoris graeca* and *Pycnonotus leucotis*, but the last two are not entirely confined to Mesopotamia, while the only species entirely peculiar to the country are *Acrocephalus babylonicus* and *Crateropus altirostris*.

Altogether one may say that Mesopotamia has an avifauna of peculiar interest, and that in spite of the opinion of some, in few places does the study of geographical races tend to throw so great a light on the components of an avifauna as here. Is it of no interest to know whence the migrants come and from what direction these plains have received their now resident species?

Two districts call for special comment; Urfa in the far north-west and the Karun district in the south-east. I have included all species noted at Urfa by Weigold for comparison, though it is beyond the area proper dealt with in this paper, and it is of interest as showing apparently the western limit of some species on passage, such as the Wood and Bonelli's Warblers, the Collared Flycatcher, etc. and, taking the determinations of his racial forms to be correct, the western limit of some races which in our area are represented by more eastern races; as these are fully noted in the letter-press they need not be detailed here.

As regards the Karun district we have only the bare statements of Zarudny concerning the status of the various species found there; these I have alluded to where necessary, but it is to be noted that in many cases the status he gives does not agree with those given by our observers in lower Mesopotamia, in that he frequently records a species as a winter visitor of which we have no records in winter at all. Future investigation is necessary to shew whether some of the these, which otherwise are not known to winter north of Africa do find the Karun district tempting enough to stay their passage further south or not. Several other species are included on the strength of Zarudny's records alone, not having been so far met with elsewhere; I do not of course vouch for Zarudny's statements.

It may perhaps be of some interest to give a list shewing the approximate status of the species in each order; our present knowledge does not admit of an exact list and of course some species might be placed in more than one category.

I have placed each species in what appears to be the predominant category and only one race where more than one occurs is included.

	Res.	W. Vis.	Sum. Vis.	Pass Mig.	Strag.	St. incog.
Passeres	24	43	9	40	3	14
Piciform	4	..	3	6	1	4
Strigiform	4	2	..	..	..	1
Accipitriform ..	5	15	1	3	2	5
Pelecaniform ..	2	1	..	..	..	2
Anseres	3	17	..	1	2	..
Phoenicopteriform..	1	..	..	..	..	..
Ardeiform	6	3	..	..	1	7
Gruiform .. ..	..	2	..	..	..	..
Charadriiform ..	10	28	2	2	2	7
Lariform	6	6	2	..	..	2
Podicipiform ..	2	1	..	..	..	..
Ralliform	3	3	..	2	..	..
Columbiform ..	3	1	1	..	1	..
Pterocleiiform ..	2	1	..	..	..	1
Galliform	3	..	..	1	..	..
	78	123	18	55	12	43

C. B. T.

1. Raven. *Corvus corax*.

Corvus corax laurencei, Hume (Lahore to Yarkhand, p. 385, 1873.
—Punjab).

The Raven is at the most a local migrant in Mesopotamia. It is fairly common and nests in the Jebel Hamrin range from Ahwaz in the south to at least Baiji, and probably further, in the north; it also breeds on the river-cliffs of the Adhaim and the Tigris from Samarra to Baiji. Logan Hume noted it building at Tekrit at the end of January and Aldworth found nests of seven and three eggs in the first week of March at the same place; Cheesman saw young being fed in the nest on April 18th at Baiji.

In winter the Raven wanders out into the plains but is only found apparently at such places where the hills are no great distance away.

Thus there are no records from the Euphrates and none from the Tigris south of Ali Gharbi, at which place the hills are only some 15 miles distant. Here and at Sheik Saad it is fairly common in winter frequenting in pairs the old battle fields, at Kut it is scarce and from Kut to some way north of Baghdad it appears to be absent, this stretch of the river being 60 miles or more from the hills.

Four specimens examined: ♀, Sheik Saad, 22-12-16; Baiji, 18-4-19 (P.Z.C. and R.E.C.). ♂ ♀, Ali Gharbi, 14-11-17 (P.A.B.).

The Mesopotamian birds agree well with the Indian ones, wings 427-440 mm.; bill 71-80, greatest height 27-29.5 mm.

In worn plumage they become very brown and might be mistaken for *C. ruficollis*.

Weigold records this race also from Urfa and Zarudny from the Karun district.

[The only record of *C. ruficollis*, the Brown-necked Raven, is that of a skin in the B. M. labelled Mesopotamia from either Loftus or the Euphrates Expedition. Mr. Kinnear, who kindly hunted up this skin and examined it for me, says that it is a very worn specimen of *laurencei*. Statements received concerning the occurrence of this species require verification and until specimens are forthcoming I include it in square brackets.]

2. Hooded Crow. *Corvus cornix*. "Ghrabi."

1. *Corvus cornix sharpii*, Oates (Fauna Brit. India Birds, 1, p. 20, 1889—Siberia).
2. *Corvus cornix capellanus*, Selater (P.Z.S., Lond., 1876, p. 694, tab. LXVI—Head of Persian Gulf).

(1) Sharpe's Crow is a winter visitor to the Mesopotamian plains from the Persian highlands; its time of arrival and departure were not reported on and, as by some observers this bird was mixed up with the resident bird it is somewhat difficult to elucidate its distribution. It has been noted at Shush and on the Karun and Kerkha rivers in March by Woosnam and is recorded as a winter visitor in this area by Zarudny and at Basra by Tomlinson; but most observers agree it is a rarer bird everywhere than *capellanus* particularly so in the lower parts of the plain; thus Buxton met with it but seldom at Amara and it was apparently not common at Nasariyeh. Round Baghdad however it is plentiful and is reported from the Euphrates as far north as Ramadi, but on the Tigris there are no records north of Baghdad except from near Shahroban. Weigold records that a crow nests at Urfa, near the Syrian boundary, which, he says, is somewhat dark for *sharpii* but paler than *cornix*. This crow joins up with the flocks of the resident bird in winter.

(2) I am inclined to regard the resident crow of the Mesopotamian plains as a subspecies of the Hooded Crow and not as a separate species as it clearly replaces *sharpii* as the breeding crow of the plains, whereas the latter is also clearly the breeding bird of the Persian highlands.

The Mesopotamian Crow is resident throughout the year and its distribution would appear to be practically that of the date palm.

It is found from Fao up the Karun river to Ahwaz, Dizful, Shuster, Bund-i-kir and down towards Bushire; but Woosnam noted that as soon as the plains were left behind its place was taken by *sharpii*.

Passing up the Tigris it is common wherever there are palms to Baghdad and up the Euphrates to Museyib, beyond which town it seems to be scarce as Pitman only knew of one pair at Feluja. North of Baghdad on the Tigris it is said to be common in the gardens on the Diala river and near Sindia and it is not uncommon as far north as Samarra and Tekrit, beyond which there are no

records. Weigold does not include it for Urfa, nor Meinerzhagen and Sassi for Mosul.

This Crow is an early breeder; Cumming says it breeds at Fao from February 15th to March 31st and Tomlinson found eggs on March 4th, and Aldworth several nests in the Nasariyeh district in the first week of March. The top of a tall date palm would appear to be the almost universal site, but Logan Home noted a nest at Amara in a low willow tree about 15 feet from the ground. The full number of eggs is 4 to 5. A nest examined by Buxton was a very untidy affair built of camel thorn and lined with sheeps wool and old paper. Mr. Jourdain informs me that the average of 43 eggs in his collection is 44.05×29.22 mm., and maximum 49.5×29.2 and 48×31.3 ; minimum 42.1×28.6 and 41.1×27.6 mm.; there is considerable variation in size and some would pass for Raven's eggs while others are no larger than Rook's.

Their habits would seem to be much like those of Crows elsewhere, and they are very fond of marshes and the vicinity of human habitation, doubtless for what they can pick up; Pitman notes that they are inveterate egg thieves, and will drive Rooks off any morsel they covet; in absence of any better perch they will alight on tall reeds to which they cling like ungainly huge Reed warblers! Their note struck me as being harsher than that of the European Hooded Crow, and they have another deeper and gruffer note which I do not remember in the latter bird.

In worn plumage the mantle of the Crow is a creamy white and the newly moulted feathers are very pale grey.

(1) , Amara, 30-1-18; Baghdad, 13-12-18 (P. Z. C. and R. E. C.).

(2) Five specimens examined: Akkarkuf, 2-8-17; 25-7-17 (P. A. B.); ♀, Basra, 12-5-17; ♀, Mohammerah, 29-3-17. (♀, Amara, 21-1-18. (P.Z.C. and R.E.C.)

This has the same wing formula as *cornix* 2nd primary between 6th and 7th, the 1st between 9th and 10th. *Scapularis*, I may note, has quite a different wing to the *cornix* group, a much shorter 6th primary so that the 2nd is between the 5th and 6th and 1st equals the 8th.

Besides being noticeably paler than *sharpii*, *capellanus* has a larger bill and stouter feet.

3 Rook. *Corvus frugilegus*.

Corvus frugilegus, L. (Syst. Nat. Ed. X, p. 105, 1758—Sweden).

The Rook is an exceeding common winter visitor to the plains of Mesopotamia arriving with great regularity during the third week of October and continuing to arrive till the middle of November.

Its distribution is much influenced by the presence or absence of trees and cultivation, but it may be said that in suitable places it occurs from Mosul on the Tigris, and Ramadi on the Euphrates in the north, to Fao and the Karun district in the south.

The huge flights to and from their roosting quarters, evening and morning, at some places such as Basra, Amara, and Kazimain must have struck the least ornithologically observant.

In some gardens they roost in such masses that their droppings constitute an annual top dressing much appreciated by the more intelligent land-owners. Flying in to roost, at a fair height as a rule, a strong wind adversely affects them, and Buxton noted that under such conditions they start to come in much earlier and finish later, while they fly close above the ground.

Though a few depart as early as mid February the main migration does not begin till mid March and continues on through that month till the end of April, by which time all have gone. The direction is mostly north in spring and south or south-east in autumn.

Whether any Rooks breed regularly in Mesopotamia is doubtful, but Aldworth in 1919 found an isolated colony at Mosul.

Nine specimens examined : Amara, 10-12-17, 30-1-18, 17-2-18, 29-11-17, 13-1-18 (P. A. B.); ♂, Bagdad, 24-12-18 (two); ♂, Sheik Saad, 22-3-17. (P. Z. C. and R. E. C.); Samarra, 28-2-18 (C. R. P.).

I have compared these with a series of European birds and a series of Eastern ones (India, Turkestan, etc.), the so-called *tchusii* of Hartert, and I must confess that I can see no constant difference between any of them and I am again led to the conclusion as before (see Ibis, 1913, p. 41) that the differences are not constant enough to warrant the separation of *tchusii*.

4. Jackdaw. *Corvus monedula*.

Corvus monedula collaris, Drummond (Ann. and Mag. Nat. Hist. XVIII. p. 11, 1846—Macedonia).

There is not much on record concerning the Jackdaw in Mesopotamia.

According to Logan Home it is resident and breeds in the high cliffs in fair numbers below Tekrit, where he saw them building at the end of February and evidently nesting early in May. Ludlow noted them entering holes in cliffs at Khan Bagdadi in April, and they breed at Hit. Cheesman saw them at Tekrit on April 19th feeding on young locusts, but does not mention anything as regards nesting.

Meinertzhagen records large flocks at Mosul in winter. Elsewhere a few are occasionally met with amongst rocks in winter as at Amara, Kut, and Baghdad. Buxton found it to be common in November on the Jebel Hamrin near Shahroban. South of Amara there are no records but it nests in the Zagros Mountains and Persian highlands. Weigold met with it twice in April in the Urfa district.

One specimen examined : Shah Roban, 22-11-18 (P. A. B.).

The white neck band is very variable and in birds of one year old it is only indicated as a spot on each side of the neck, little more than is found in some specimens of the typical race.

5. Magpie. *Pica pica*. "Aq Aq"

Pica pica bactriana, Bp. (Consp. Av. 1, p. 383, 1850—East Persia).

The distribution of the Magpie in Mesopotamia is rather curious ; starting at Hilla on the Euphrates it is common and resident wherever there are suitable gardens and date groves, as far north at all events as Ana, where they are numerous ; round Baghdad it occurs but sparingly, and below the city on the Tigris it is absent ; on the Diala river it is found at Bakuba, Shahroban and Kizil Robat.

The Samarra-Tekrit area is unsuited to it but it is found again at Mosul. Wherever it occurs it probably breeds ; Pitman records it breeding at Fcluja on March 13th and young in the nest were found there on April 28th ; at Museyib it was one of the commonest garden birds, many young ones being seen in June.

Three specimens examined ; Hilla, 16-3-19 (two) (P. Z. C. and R. E. C.); Museyib, 12-7-17 (C. R. P.).

These have a very distinct white rump band and the black on the primaries very restricted, the only specimen with a perfect wing, a male, measured 210 mm. These birds exactly match specimens from Shiraz and are undoubtedly *bactriana*. Neumann records the typical race from Ras-el-ain near the Syrian boundary, whence I have seen no specimens.

(Capt. Burke says the Chough inhabits the cliffs in Kurdistan and is eaten by the Kurds as food ! It might wander down to the foot hills in our area in winter.)

6. Starling. *Sturnus vulgaris*. "Beiji."

(1) *Sturnus vulgaris vulgaris*, L. (Syst. Nat. Ed. X., p. 167, 1758—Sweden).

(2) *Sturnus vulgaris caucasicus*, Lorenz. (Beitr. Orn. Faun. Caucas., p. 9, 1887—Kislowodsk).

- (3) *Sturnus vulgaris nobilior*, Hume (Stray Feathers, 1879, p. 175—Kandahar).
- (4) *Sturnus vulgaris* subsp. ?
- (5) *Sturnus vulgaris polkarskyi*, Finsch. (P. Z. S., London, 1878, p. 713—L. Marka-Kul. Altai).

The Starling is an exceedingly abundant winter visitor to the plains arriving pretty regularly in the last days of October (earliest record 16th), and continuing to arrive throughout most of November. Thus Pitman noted flocks going S. and S. E. on most mornings up to the 24th of the month in the Adhaim-Samarra area, and Cheesman saw flocks passing over Sheik Saad on November 9th. Many move off again by the end of February, and in the first part of March they are quite scarce; there are several records of small flocks moving north during the early part of this month and the latest date of any seen is the 23rd.

They are of course most abundant where food supply is plentiful, such as round camps, mule lines, transport dumps, etc., and they have their regular feeding and roosting places, the morning and evening flight between the two places being one of the noticeable ornithological features at Basra and elsewhere. Prodigious flocks are to be seen at times; Evans records a flock exceeding 10,000 birds collecting at dusk near Amara. Hobkirk informs me that the Starling is as elsewhere a good imitator and he has heard it copying the note of the Pintailed Sand-grouse exactly.

Many Starlings found their way into the pot during the siege of Kut and elsewhere during the war, and Cheesman relates an amusing story thereon. At Sheik Saad on one occasion when cartridges were at a premium, a shot "into the brown" brought down a dozen which were secretly handed to the cook. The word was given out to the Mess that a *Quail pie* was provided for dinner with loud acclamation; unfortunately however on serving, the heads and bills were found protruding and the provider hastily changed his diagnosis to *Snipe pudding*, hoping all would be well! all partook of the dish without demur, save the O. C., who said he had never eaten *Woodpeckers* yet and he was not going to begin now!

Thirty-five specimens examined:

- (1) Amara, 15-2-18, 3-4-18, 7-11-1 (two), 15-2-18 (three), 4-12-17, 27-1-18 (P. A. B.); Basra, 19-12-18 (Armstrong); Samarra, 4-12-17, 21-12-17 (three); Kut, 4-1-17, 25-11-16 (C. R. P.); Sheik Saad, 13-12-16, 3-3-17 (P. Z. C.) and R. E. C.; Suleimania, 12-11-19 (Ross); Shustar, 3-2-18 (F. M. B.); Basra, 21-11-17 (five) (C. B. T.).
- (2) Amara, 26-2-18 (P. A. B.); Amara, 15-2-18, 4-2-18 (P. Z. C. and R. E. C.); S. Saad, 18-12-17 (Robinson).
- (3) Shaik Saad, 23-12-17, 20-12-17 (Robinson); Kut n. d. (Keary).
- (4) ♂ Amara, 26-2-18 (P. A. B.); Shustar, 3-2-18 (F. M. B.).

(1) It is evident from the above numbers that *vulgaris* is far the commonest Starling of Mesopotamia. An east-Russian form has been described—*sophiae* of Bianchi (= *jilkowi*, Buturlin) differing from the typical race by having more purplish colour on crown and throat and it is this form which has been recorded in winter in the Talysh, Palestine, Egypt, etc. (Hartert Novit. Zool. 25, p. 329) and which might be expected to occur in Mesopotamia. I have examined a very large number of these eastern Starlings and a great many Starlings from western Europe, and in my opinion the differences are too trivial and far too inconstant to warrant the separation of *sophiae*. A great many English Starlings have purple heads and not green ones, and several breeding Swedish birds (topo-types of *vulgaris vulgaris*) have purple heads, while two birds from Moscow and Voronezh, which should have purple heads, have green ones! I believe that the older and more worn the typical race becomes, the greener is the head. I can find no constant difference between the two. This "race" *sophiae* extends as far east as Shiraz in winter.

(2) *caucasicus* is of course a very recognizable race with the red purple wing-coverts and green head, throat, mantle, and undertail coverts, when quite typical; however as with other races it is a little variable and I have examined two from the type locality (breeding) which had the throat purplish and one with purplish violet under-tail coverts. The crown however is invariably dark green.

(3) These three skins are quite inseparable from typical *nobilior* from Kandabar, differing from *caucasicus* in having the head, throat, and undertail coverts purple.

(4) These two birds are very puzzling and agree with no race of which I have been able to see descriptions of specimens of. There are two other skins, which evidently belong to the same race, collected by Mr. Hotson near Shiraz. These four specimens differ from *caucasicus* in having a *bright, virid green gloss* on the wing-coverts, mixed with violet-blue, instead of a purple red gloss; also the upper parts from mantle to rump have a varying amount of purple sheen mixed with the green, so much so that an adult male from near Shiraz has the whole of the upper part bright purple *and no green gloss* at all. All four skins are winter specimens. As the breeding quarters of this bird are not known and some races have been described by the Russians, the descriptions of which I have not been able to see, I shall not compete with them in making another new race! Dr. Hartert who kindly examined these skins for me says they are "only *caucasicus* in their usual garb," though he admits one has far more purple on the back than usual. With this I must, I fear, disagree. I have examined about a score of typical *caucasicus* and all have the plum-red wing-coverts, utterly different to those in these birds; had there been *one* bird alone which differed from typical *caucasicus*, one might have put it down as an aberration, but with four skins all shewing the same differentiating characters one cannot help supposing that they belong to some other race.

(5) One obtained by Cheesman from a flock at Bagdad on November 21st, 1920, clearly belongs to this race. Perhaps not uncommon.

This does not exhaust the races of Starling which have been recorded from Mesopotamia! Meinerzhagen (Ibis 1914, p. 389) saw *purpurascens* in abundance! It may of course occur, but none of our thirty-five skins are referable to this race, and one cannot tell it in the field; such "records" are better left unpublished. Neumann (J. F. O., 1915, p. 121) described a new race from Northern Mesopotamia which he calls *oppenheimi*, and remarks that it does not fit in with any race according to Buturlin's key! He says it breeds in Mesopotamia as Dr. Pietschmann obtained on May 23rd at Mosul a grey, scarcely fledged, young one. Now Neumann's type came from Tel-Halaf (Ras-el-Ain) (between Mosul and the Syrian boundary) in January and he has seen a similar bird from Mosul, also in January (recorded by Sassi as *nobilior*), but how he arrives at the conclusion that his new race *breeds* there is beyond my comprehension, especially as the only breeding birds he has seen from this area, and which he describes, do not at all fit in with his diagnosis of *oppenheimi*! What exactly *oppenheimi* is, it is impossible to say without seeing the type and, until a series of breeding birds can be seen from Mosul to ascertain whether a distinct race *does* breed there, it is best, I think, not to recognize Neumann's race. From his description it is very close to *purpurascens* which breeds in Asia Minor and Armenia. Hartert states (Nov. Zool. 25, p. 332) that he has seen a Starling from south Mesopotamia which agreed with Neuman's description.

7. Rosy Pastor. *Pastor roseus*.

Pastor roseus (L.) (Syst. Nat. Ed. X, p. 170—Lapland).

The migrations of the Rosy Pastor would seem to avoid for the most part the Mesopotamian plain. Pitman saw several at Feluja on May 2nd and obtained one, and on May 7th saw several more which departed in N. W. direction. On

May 21st Cheesman saw a party at Kizil-Robat and more at Kasr-i-Sherin just over the frontier, they were flying N. E. Cumming records it from Fao in the brown juvenile dress. At Urfa Weigold found it common in the vineyards in May. It is apparently a rare bird in S. Palestine and Egypt and its migrations must be largely east and west.

8. Golden Oriole. *Oriolus oriolus*.

Oriolus oriolus oriolus (L.) (Syst. Nat. Ed. X, p. 107, 1758—Sweden).

The Golden Oriole is a bird of passage in small numbers; arriving rather late in spring, its passage appears to cover the last week in April and the first part of May. Pitman saw it at Feluja on April 27th—29th and Cheesman found males in song at Khazimain on 29th; Buxton met with it at Amara on the 30th and again on May 7th. It was noted at Nasiriyah in May and Cheesman found it at Khanikin on the 21st. Logan Home records that he saw a female at Dau. on June 2nd. We have no evidence of it breeding.

At Urfa it would seem to arrive earlier, as often is the case with other migrants, and it is also common there; Weigold records that the males arrived on April 18th and the females on the 29th. Cumming recorded it as a passage; migrant at Fao in May and June and again in September.

In autumn there are few records: Kut, August 9th; Amara, 2nd week in September (Buxton); Ramadi, September (Brooking); Basra, September 4th (L. Home); Fao, September 10th (Cumming); while there are skins in the B. M. from Mesopotamia on August 20th and September 1st.

♂, Two skins examined: Feluja, 27-4-17 (C. R. P.); ♀, Amara, 11-5-18 (P. A. B.).

9. Goldfinch. *Carduelis carduelis*.

(1) *Carduelis carduelis niedicki* (J. J. Ornith, 1907, p. 623—Eregli) (Taurus

(2) *Carduelis carduelis loudoni* (Morn. Monats., 1906—Lenkoran?).

Goldfinches appear to be rather local and scarce in winter, possibly they are erratic visitants. Cheesman noted it at Qalet Saleh on November 25th, 1917, and on December 20th the same year Buxton found some flocks inhabiting gardens at Amara where they remained till the middle of February. Ross met with a large flock on thistles at Suleimania on December 19th, 1919, and Bailey at Shustar on February 2nd. Weigold obtained two birds at Urfa in April but apparently they were not breeding there; one he thinks is not distinguishable from the European bird and the other is paler and he places it as *niedicki*. Meinerzhagen records a flock at Baghdad on January 2nd.

(1) Nine skins: examined ♂, ? Shustar, 3-2-18 (F. M. B.); ♂, Qalet Saleh, 25-11-17, ♂, Amara, 12-2-18 (P. Z. C. and R. E. C.); ♂, Amara, 27-12-17, ♂, 13-1-18, ♂ 13-1-18, ♂, 19-12-17 (P. A. B.); Suleimania, 19-12-19 (Ross).

(2) ♂, Amara, 23-11-17. (P. A. B.).

It is quite evident that two races are represented here and that none of the skins are referable to the typical race; the nine skins above are all too pale on the mantle for this latter race and the cheeks are sullied white; the colour of the mantle alone, a grey brown, separates them at a glance and they are rather smaller. They correspond well with *niedicki*, six topotypes of which I have examined from Eregli, in colouration and in size. The Eregli birds measure 75.5—82 in wing and the Mesopotamian ones 76-81.5 mm. Drs. Buxton and Hartert, who also looked at these birds considered them to be Zarudny's *harmsi* (a name he substituted for *minor* and *brevirostris* which were preoccupied) but neither they nor myself have seen topo-types of *harmsi* (Lac Krasnoye near Baku). However as these birds agree well with *niedicki* and this is the older name they must stand as this and probably it will be found that *harmsi* is a synonym. There is a specimen of this race *niedicki* (Woosnam coll.) in the B. M. from S. coast of the Caspian in March which Witherby (Ibis. 1910, p. 510) records as *minor*.

The single bird (Amara, 23-12-17) stands out from the rest at once and evidently belongs to a different race. It is browner, not so grey above, and more extensively and purer brown, not grey brown, on the flanks, and this colour reaches the undertail coverts. Dr. Buxton tells me it matches well a series of *loudoni* in the Tring Museum from Lenkoran; these are more like the typical race, but have the crown crimson red, not so flaming vermillion and the spots on the side of the breast dull brown not red brown, and are of the same size—that is larger than *niedicki*.

Lastly there is a bird in the B. M. obtained by Woosman on the Diz R. on March 11th. Witherby (Ibis, 1907, p. 100) referring to this specimen thought it was perhaps nearest the typical race, or might be *volgensis* of Buturlin of which he had seen no specimens. I have examined this bird and could come to no decisive opinion about it; it certainly is not either *niedicki* or *loudoni* and it is rather large and richly coloured for the typical race. It matches fairly well a bird from Samarkund which is *major*, except that the upper part of the rump is greyer, but I notice that the pureness of white rump in *major* varies somewhat, however it is darker on the mantle than most *major*, are; in absence of any further similar specimens and of any topo-types of *volgensis* (Ibis, 1906, p. 424, Seuram to the Urals) one cannot come to any determination, but I may remark that this bird seems to agree with Buturlin's description, and Zarudny records this race in winter from the Karun district.

The distribution of the various races of Goldfinches in this corner of Asia require much more study and further specimens are needed before we can come to any satisfactory conclusion about them. Zarudny says *loudoni* is the breeding bird of Shustar and Kasvin and Buxton found it common at Resht in winter and I have seen winter specimens from Shiraz. The breeding bird of the Persian plateau is apparently *harmsi*, which probably is the same as *niedicki*.

10. Siskin. *Carduelis spinus*.

Carduelis spinus (L.) (Syst. Nat. Ed. X, p. 181, 1758—Sweden).

One obtained by Ross at Suleimania on January 7th, 1920, is the sole record.

11. Linnet. *Acanthis cannabina*.

Acanthis cannabina fringillirostris, Bp. and Schleg. (Mon. Lox. p. 45, 1850—Cashmere).

Evidently the Linnet is a scarce winter visitor; Buxton met with a flock of twelve at Amara on February 11th and obtained specimens. Meinerzhagen recorded a flock of Linnets at Nineveh, and Ross got one at Suleimania from a large flock feeding on thistles and reeds on January 29th; Bailey obtained two early in January at Shustar, where Woosman had previously met with it (March 21st); Witherby thought Woosman's bird was rather dark for this race. Zarudny says that *fringillirostris* is a winter visitor and passage migrant and that the typical race is rare in the Karun district. I have seen none that could be ascribed to the typical race, all our skins are typical *fringillirostris*.

Four skins examined: Amara, 11-2-18 (P. A. B.); Shustar 1-2-18 (F. M. B.) Suleimania, 19-1-20 (Ross).

12. Red-fronted Serin. *Serinus pusillus*.

Serinus pusillus (Pall.) (Zoogr. Rosso-Asiat. ii, p. 28, 1811—Caucasus and Caspian).

Apparently a scarce, perhaps erratic winter visitor. Buxton met with a flock in a garden at Amara on February 7th, 1918, and obtained four specimens. It breeds in the Caucasus, North Persia, etc.

13. Trumpeter Bullfinch. *Buchanetes githaginea*.

Buchanetes githaginea crassirostris, Blyth. (J. A. S. B. XVI, p. 476, 1847—Afghanistan).

Tomlinson found this Bullfinch breeding at Ahwaz on a barren hillside on March 25th; the nest sheltered by a projecting piece of rock contained 4 fresh eggs. Zarudny records it in winter and as nesting in the Karun District in small numbers. No specimens examined but I accept Zarudny's determination of the race. Jourdain informs me that these eggs resemble those of other races of this species and average 18.7×14.2 mm.

14. Rose Finch. *Rhodospiza obsoleta*.

Rhodospiza obsoleta (Licht.) (Eversm. Reise. Anhang., p. 132. 1823—Bokhara).

Buxton obtained one at Amara in a pomegranate bush on December 16th, 1917, it was extremely tame; he found the remains of another on December 31st. Weigold met with it once at Urfa on April 18th. Tomlinson obtained a nest of 5 eggs on barren hills near Ahwaz on March 25th, 1913; 3 of these eggs are in Jourdain's collection and he tells me they exactly agree with eggs from Quetta. No birds were obtained and I consider the evidence inconclusive as certainly in Quetta this bird does not breed on barren hills, but in vines and rose bushes in gardens.

15. Chaffinch. *Fringilla cœlebs*.

Fringilla cœlebs cœlebs, L. (Syst. Nat. Ed. X, p. 179, 1758—Sweden).

The Chaffinch is probably a weather migrant in winter to the Mesopotamian plains, and does not come till forced by the hardness of the weather elsewhere. Buxton first noticed it at Amara after a three days cold snap on December 15th and they remained fairly common till March 6th. Pitman records small flocks at Samarra in January and February. It is recorded from Baghdad, Sulcimanah, Tekrit, Sushtar, from November to January and at Hit on March 8th; Buxton found it common at Khanikin on November 23rd. Sassi and Meinerzhagen record it at Mosul in January and Zarudny as winter visitor to the Karun district.

Fourteen skins examined: ♂, Amara, 7-3-18, ♀, 11-1-18 (P. A. B.): ♂ ♀, Sushtar—14-1-18 (F. M. B.); 6 ♀ ♀, Samarra, 29-1-18, ♀, Baghdad, 30-12-17 (C. R. P.); ♀ Amara, 2-1-18 (P.Z.C. and R. E. C.), 2 ♀, Sulcimanah 14-11-19. (Ross).

I cannot separate these from west European birds. Chaffinches vary much in colour of the breast, the tint in the males being very variable and that in the females probably becoming pinker with age, and this obtains in these Mesopotamian birds as well as in European ones. I can pass no opinion on Menzbier and Sushkin's *salonikoi* from Krini and W. Caucasus. (Orn. Monat., 1913, p. 192.)

16. Brambling. *Fringilla montifringilla*

Fringilla montifringilla, L. (Syst. Nat. Ed. X, p. 179, 1758—Sweden)

Recorded by Sassi from Mosul in November and February, and by Zarudny in winter in small numbers in the Karun district.

17. Rock Sparrow. *Petronia petronia*.

(1) *Petronia petronia exigua* (Hellm) (Orn. Jahrb., 1902, p. 128—Rostov on the Don).

(2) *Petronia petronia intermedia*, Hart. (Nov. Zool., 1901, p. 324—Gilgit.)

None of our observers met with this species for certain. Sassi records *exigua* from Mosul on January 24th.

Weigold saw some race at Biredjik where it breeds.

Zarudny and Harms say that *intermedia* is not rare at Salmi in the Karun district in winter; it breeds in the oak wood district of Central Persia (Woosnam). Meinerzhagen records a Rock Sparrow from the hills near Mosul in January and Kingdon Ward says he saw a pair at Samarra.

18. Desert Rock Sparrow. *Carpospiza brachydactyla*.

Carpospiza brachydactyla (Bp.) (Consp. Av. i. p. 513, 1850—Konfuda in W. Arabia).

Cheesman found this peculiar sparrow migrating in flocks on April 18th at Fatah Gorge passing up the line of the Jebel Hamrin range going N. N. W.

He says the flight reminded him of that of a Hawfinch and the note is that of a Bunting; a large migration was in progress that day, other species moving in the same direction were Spanish Sparrows, Ortolans and Wagtails.

The crops of specimens obtained contained seeds; the organs were advanced. Later he found it breeding at a fair height on the Kermanshah road in Persian Luristan and the song is a long drawn out note like that of Buntings. The legs and feet in the male are horn colour, in the female pale flesh.

Zarudny records it as a winter visitor and passage migrant in the Karun area; it must I think breed not far from Fao as there is in the British Museum one got by Cumming in 1893 in juvenile dress. This plumage resembles the summer adult (worn) dress but it is a trifle more sandy, and much more sandy than the winter plumage.

Three specimens examined: ♂ ♀, Fatah Gorge, 18-4-19; ♂, Tekrit, 19-4-19 (P. Z. C. and R. E. C.). These agree well with Arabian specimens.

19. Yellow-throated Sparrow. *Gymnorhis flavicollis*.

Gymnorhis flavicollis transfuga, Hart. (Vog. Pal. F.), p. 145—Bahukelat, Baluchistan).

This is one of the Indian species which extends its range to Mesopotamia. It is a summer visitor to the date palm areas from Fao to Baghdad arriving in April, breeding in the latter part of May or even earlier and leaving again in August and September. Beyond Baghdad there are no records of it; here Cheesman found several in song on April 27th and the organs of a male were well advanced, they were evidently breeding in the tall date palms. Tomlinson records that it breeds in holes of date palms at heights varying from 8 to 20 feet at Basra; the nest is a typical sparrows, untidily built of dead grass and lined with feathers and contains not more than 4 eggs. Cumming however at Fao notes as many as five or six eggs in the clutch, and says the eggs are typical sparrows eggs but vary much in colour and notes three distinct types, one of which is erythristic—a pinkish white ground mottled with pale reddish brown spots. Jourdain informs me the eggs in his collection are at once recognizable from those of the House Sparrow by their smaller size, and the average size of ten eggs is 18.8×13.8 m.m.

Cheesman records that one shot had the gizzard full of beetles.

Five skins examined: ♂, Fao, 6-5-18 (Armstrong); Khazimain, 27-4-19; Basra 18-4-17 (P. Z. C. and R. E. C.); 2 Basra, 1918 (Hobkirk).

These correspond perfectly with topo-types from Baluchistan which are paler than the typical race from the Central Provinces of India.

20. House Sparrow. *Passer domesticus*. "Asfur."

Passer domesticus biblicus, Hart. (Vog. Pal. F., p. 149—Sueme, Palestine ?).

A very common resident throughout Mesopotamia wherever there are habitations, and even following the camps out into the desert. In places where food is abundant such as supply depots, mule lines, etc., it occurs in huge flocks. They breed early, as Cheesman noted them feeding young with caterpillars on April 19th, and nests may be found at the end of June; so that as in other races this form has two or more broods. A variety of nesting sites are chosen; Pitman found at Kut and Adhaim many nests in scrub jungle, some in quite small bushes, and Zarudny records finding 29 nests in one small bush in the Karun district: trees of course are utilized, especially poplar and palm buildings

and ruins of all sorts, holes in banks, and even the nest hole of *Ceryle rudis* was appropriated in one case reported by Evans, the deserted Kingfishers being found behind the Sparrows.

The question arises what race or races of House Sparrow inhabit our area. From S. W. Persia and the head of the Gulf *indicus* has been repeatedly stated to occur (Zarudny, Harms, Witherby, etc.). Now I have examined a very large series from the Mesopotamian plain,—from Basra in the south to the Adhaim in the north, and these match typical *biblicus* in every way and certainly are not *indicus*, as they are too large and have grey, not white cheeks. In S. W. Persia I have seen *biblicus* from Shustar, Dizful and even up to Kermanshah. The south coast of the Caspian is inhabited by sparrows which I cannot separate from the typical form. *Indicus*, which is a small bird (wing usually 76-78 mm. in males) and has white cheeks, I have not seen west of Gwader on the Mekran coast; at Bampur, Karman, Shiraz, Bushire (in winter), Afghanistan and probably Beluchistan there lives a white-checked sparrow which has always been called *indicus*, but for this it is much too big; it is *parkini* of Whistler, a bird of considerable range and whose type locality is Srinagar. Cashmere (*vide* Bull. B. O. C. cclii, p. 13, 1920). Weigold says that specimens from Urfa are not distinguishable from the typical form and Kolibay thinks the same. I have seen none from this district so cannot pass any opinion. Sassi records *indicus* from Mosul, probably an error.

23 skins examined: ♂, Kazimain, 9-2-19, 6-5-19; ♂, 7-4-19; Amara, 14-3-18 (two); ♂, Basra, 19-4-17; ♀, Shustar, 13-1-18; ♀, Sheik Saad, 25-11-16; ♀, Zcar, 4-2-19 (two) (P. Z. C. and R. E. C.); 2 ♂ ♀, Samarra, 6-3-18; ♂, Adhaim, 20-10-17 (two); ♂, 7-10-17; ♀, Bait-al-Khalifa, 21-12-17 (two) (C. R. P.); ♀, Shustar, 13-1-18; 3 ♀, Basra, 21-11-17; ♀, 17-3-18 (C. B. T.). Wing ♂, 79—83.5 mm., bill from base 14. ♀ 77.5-82 mm.

21. Scrub Sparrow. *Passer moabiticus*.

Passer moabiticus moabiticus, Trist. (P. Z. S. Lond, 1864, p. 169—Dead Sea).

This handsome little Sparrow is a local resident in suitable localities, wandering away from its breeding haunts further afield in winter. Buxton met with a small flock at Amara on December 9th in deep scrub of *Prosopis*, *Rubus*, *Tamarix*, Liquorice, etc., and he saw another flock in the same place mixed with *domesticus* on the 16th. Pitman found several large flocks 10 miles N. of Kut near the Tigris in scrub and *Sueda* bushes on March 3rd and met with them again in the same area in scrub round floods on April 7th and 10th. He noticed them searching the leaves of the *Sueda* bushes for insects. Cheesman met with it mixed with flocks of *hispaniolensis* near Amara on January 13th. He has already given an account (Bull. B.O.C. CCXLVI, p. 39) of the nesting of this bird which I reproduce:—

"On May 1st, 1919, this colony was nesting in thick scrub jungle near Baghdad. The jungle was several miles in extent on the banks of the Tigris. . . . The nests were always built in the stout stems of the Euphrates Poplar or trees of dwarf Tamarisk 5 feet to 8 feet from the ground. There were perhaps 100 nests scattered over 6 miles. Generally the nests were 200 yards apart. The main structure is of sticks and resembles a small Magpie's nest. The large size of the stick selected is remarkable when the smallness of the bird is considered. The eggs are placed on a thick pad of down from rushes and thistles, a few fibres and small feathers. The roof is covered in, and the entrance is a small hole which winds down out of sight from the top in a spiral."

"One nest contained one half-fledged young and one egg, another 5 eggs, 2 fresh and 2 near hatching, another 6 eggs all fresh, another 3 eggs all fresh. One nest, an old one, was being renovated by a pair of birds. The

clutches are usually composed of a majority of dark eggs, with one or two totally different, being white with a few brown spots or blotches."

Zarudny, who first discovered this Sparrow in Mesopotamia, found it in great numbers in the lower reaches of the Karun between Ahwaz and Nasrie at the end of January and beginning of February in jungle of Tamarisk, *Lycium* and Poplar. Here he found old nests. He also met with it at Shellgati on the Gagar R. in thick fruit gardens and at Kulichan on March 24th found it breeding in Tamarisk. From specimens he obtained on this expedition he separated this Sparrow as *mesopotamicus*, being intermediate in colour between *moabiticus* from the Dead Sea and the very distinct Seistan form *yatii* and he says it is larger than *moabiticus*.

He gives the measurements of *mesopotamicus*—

♂, wing 62-66.3, tail 52.3,—56.5 m m.
♀ „ 59.3-63.5 „ 49.3—53.6 m m.

Of typical *moabiticus* he only had two specimens for comparison!

I have examined the following skins from Mesopotamia:—

♂, nr. Baghdad, 30.4.19, W. 64.5, T. 59.5, B. 10 (P. Z. C. and R. E.C.).
♂, Amara, 16.12.17, W. 66.5, T. 50.5, B. 10.5 (P.A.B.)
♂, Amara, 9.12.17, W. 63, T. 48.5, B. 9.75 (P. A. B.).
♀, Amara, 16.12.17, W. 62.5, T. 51, B. 10 (P. A. B.).

♀, nr. Baghdad, 30.4.19, W. 62.5, T. 49.5 B. 10 (P. Z. C. and R. E. C.

Of typical *moabiticus* from the Dead Sea I have examined 11 males and 9 females. These males measure W. 61—64.5 m.m., T. 47.5—62 m.m. and the females W. 59—62, T. 47.5—51. Between the Mesopotamian and Dead Sea birds I cannot see the slightest difference in colour and, as above, there is practically no difference in size. I can only regard *mesopotamicus*, Zar., as a synonym of *moabiticus*, Trist.

22. Spanish Sparrow. *Passer hispaniolensis*.

Passer hispaniolensis transcaspicus, Tschusi (Orn. Jahrb., 1903, p. 10,—Jelotan in Transcaspiä).

A winter visitor in great numbers, widely but rather patchily distributed. There are no records of it before December 7th when Buxton noted that many arrived at Amara and spent the winter. They became commoner still in February and then gradually disappeared, the last being seen in the first week in April. He noted that they did not consort with House Sparrows and used to roost all the winter in dense Poplar scrub and *Lycium* bushes in the desert, even a couple of miles from the river. Fitman found it common in the Kut area in February and says it may have been there earlier, and he noted it wherever suitable scrub existed between Kut and Baghdad; he met with it again at Feluja on April 17th during the spring migration of Wagtails, etc., while Cheesman saw large and frequent flocks on April 18th at Fatah Gorge passing up the line of the Jebel Hamrin together with Wagtails, Ortolans and *Carpospiza* in a very large migration rush. Cumming noted it at Fao with House Sparrows during the winter and early spring.

Zarudny in 1911 includes it in his Karun list as common in winter and *nesting in small numbers*. Writing in 1913 on the Sparrows of Persia (J. F. O., 1913) he says it is common at Wais, Mohommara and Karun River, also at Ahwaz and Shustar, from January to March and adds *there is no evidence of its breeding!* He further remarks that birds corresponding to *palestinæ*, Tschusi, are to be found in Persia, Transcaspiä, Bokhara and Turkestan. I do not know this latter race but some *transcaspicus* are quite difficult enough to tell from typical *hispaniolensis* including some Palestine and Mesopotamian specimens and single birds might equally well be of the latter form; on the whole however I refer them to *transcaspicus*.

25 specimens examined : ♂, Shustar, 13-1-18, 18-1-18 (F. M. B.); 3 ♂, Amara, 29-1-18; ♀, Zoar, 4-2-18; Fatab, 18-4-19 (P. Z. C. and R. E. C.).

♂ ♀, Fehuja, 17-4-17; ♀, Kut, 19-2-17, 3 ♂, 19-2-17 (C. R. P.); 6 ♂, Amara, 27-1-18, ♂, 21-1-18, 11-3-18, 25-1-18, 13-3-18, 28-2-18, 30-3-18 (P.A.B.).

Wing of ♂, 77-84 mm. The young birds of the year have broader edges to the upper parts and are very pale and these and fresh moulted birds are the most easily distinguishable, worn birds are most difficult to separate. The males of the year have on the whole the shorter wing.

23. Tree Sparrow. *Passer montanus*.

Magrath is quite certain that he saw Tree Sparrows amongst flocks of Spanish Sparrows at Felahiyeh on February 10th, 1917. There are no other records for Mesopotamia, but as it is not an unlikely bird to occur (it occurs in many parts of N. Persia) in winter and Magrath knows the species well I include it.

24. Corn Bunting. *Emberiza calandra*.

Emberiza calandra calandra, L. (Syst. Nat. Ed. X, p. 176—Sweden).

The Corn Bunting is more or less resident in the Mesopotamian plain, apparently such migrations as it performs being only local and so in some places, such as Kut, it appears in the winter months only. It is widely distributed in winter, frequenting scrub, arable land and corn fields. To places where it is a winter visitor it leaves by about mid April and so a certain amount of migration may be noticed in districts where it is in winter not common, from the end of March onwards.

The only breeding record comes from Shaura about 40 miles south of Mosul where Aldworth obtained a nest of six eggs and the parent bird on March 24th.

It probably breeds elsewhere, as at Amara, where Buxton obtained a male with advanced organs on April 7th. Cheesman noted a pair in song and the male displaying at Sheik Saad as early as December 20th.

Weigold says this species was not common in the Urfa district and became rarer eastwards; he records it from Serudj on the Euphrates. Zarudny records it as wintering in the Karun district, where Woosnam also found it at Shush and Shuster in March.

Nine skins examined : ♀, Shustar, 3-2-18 (two) (F. M. B.), ♀, Kut, 12-2-17; ♂, Fehuja, 30-3-17; (C. R. P.); ♀, Sheik Saad, 24-3-17; 20-12-16 (P. Z. C. and R. E. C.); ♂, Zorr, 18-3-18; ♂, Amara, 7-4-18; o ? 11-2-18. (P.A.B.).

I cannot separate these birds from the typical race either by size or colour; at least two Eastern races have been described, *minor* of Radde from Tiflis, *buturlini* of Johansen from Kastekin W. Siberia (*crede*, Hartert) and another *buturlini* of Zarudny from Turkestan! I have examined a good many Turkestan birds and cannot separate winter or March birds thence from European ones. Eastern birds generally wear quicker than western ones and so birds, like Corn Buntings, appear greyer above and whiter below earlier in the year than do western examples; but these latter in a few weeks will also become as grey and white as the eastern ones. Also the amount of brownness or greyness above and the yellowness or whiteness below varies a good deal individually.

25. Yellow Bunting. *Emberiza citrinella*.

This Bunting is apparently quite a straggler to Mesopotamia. Hobbkirk is quite certain he saw one at Basra on April 10th and from his description it would seem that this was so. Sassi obtained two from Mosul on January 23rd and Weigold saw one near Urfa on April 8th; both suppose that their birds belong to the eastern race *erythrogenys* which race Zarudny also gives as wintering in the Karun district. As I have seen no specimens from our area I leave out the trinomial name.

[Meinertzhagen states (Ibis, 1914, p. 390) that he saw *Emberiza leucocephala* near Baghdad; as there are no other records of this bird I include the record in square brackets.]

26. Black-headed Bunting. *Emberiza melanocephala*.

Emberiza melanocephala, (Hist. pl. 42 1769,—Carnioia). Scop. (Annus I. Nat.

To most of our district this species is, where it occurs at all, a passage migrant and all the records refer to the spring. Pitman says a few arrived at Feluja on April 17th and inhabited some locust-infested fields together with Ortolans and Wagtails until the 21st, when they disappeared. Cheesman noted odd ones at Fatah Gorge on April 18th and Tomlinson records a large flock at Shustar on the 19th. Cumming found it at Bushire on the 14th, while Cheesman reports it from Shush on May 1st. It would appear from the absence of other records that this species comes from the south-east and migrates along the line of the Jebel Hamrin.

In the Urfa district according to Weigold the males appeared on April 28th. It evidently breeds at Mosul, and perhaps elsewhere in northern Mesopotamia as Sassi says he received 11 eggs from there, but gives no further particulars.

Three skins examined: ♂ Feluja, 17, 21 and 22, iv, 17 (C. R. P.).

27. Red-headed Bunting. *Emberiza icterica*.

Emberiza icterica, (Add. ad. Pall. Zoogr. Russo. Asiat. ii, Eversm. p. 10, 1841—Caspian) (= *luteola* auct.).

The only record of this species is that of a single young bird obtained at Fao by Cumming.

28. Grey-headed Bunting. *Emberiza cinerea*

Emberiza cinerea semenowi, Zar. (Orn. Jahrb. xv, 1904, p. 117—Arabistan).

This somewhat rare Bunting is recorded by Zarudny as a passage migrant in the Karun district. Cumming obtained it at Bushire on March 27th. As it nests in large numbers in Arabistan (Zarudny) and occurs in Syria it should be met with more commonly in Mesopotamia. Possibly it has been overlooked. The grey head and rump, and yellow throat should suffice to distinguish from other species.

29. Ortolan Bunting. *Emberiza hortulana*.

Emberiza hortulana, L. (Syst. Nat. Ed. X, p. 177. 1758—Sweden).

This also is a passage migrant within our area and most records refer to the spring. Cheesman noted large and frequent flocks passing up the line of the Jebel Hamrin at Fatah Gorge on April 18th, halting for a few moments on a bush by a pool to drink before dashing off N.N.W. again. Pitman records it in great numbers from April 15th to 20th feeding on young locusts and roosting in tall poplars. After the latter date only a few were seen and the last on May 8th. He also met with it in the Kut area from April 7th to 10th. Magrath saw a passing flock at Basra on April 22nd, and Cheesman came across small parties on the Baghdad-Tekrit railway feeding on the desert where it had been burnt by grass fires. Zarudny records it as a passage migrant in his area also, and Weigold says they first arrived at Urfa on April 10th and continued passing to the end of the month. The only autumn record relates to the oasis of Shaiba where Cheesman found a pair at a well on September 27th.

Five skins examined: ♂, Basra, 18-4-17; ♂, Tekrit, 17-4-17; Shaiba, 27-9-16 (P.Z. C. and R. E. C.); ♂ ♀, Faluja 17-4-17 (C. R. P.): ♂ ♀, wing, 89-93 mm.

These Mesopotamian birds differ in no way from European ones, nor do those I have seen from Persia, whence the so-called *shah* was described; a few Eastern birds are a millimeter or so longer than European ones, sex for sex, but the difference is not sufficiently marked to warrant separation.

30. Grey-necked Bunting. *Emberiza buchanani*.

Emberiza buchanani, Blyth (J. A. S. B., xiii, p. 957—Indian Peninsula).
Recorded only by Zarudny who says it is a passage migrant in the Karun district. It nests in small numbers in the Zagros Mountains.

31. Rustic Bunting. *Emberiza rustica*.

Emberiza rustica, Pall. (Reise, Reichs. iii, p. 698, 1776—Daruria).
Recorded by Zarudny as a winter visitor to his district.

32. House Bunting. *Emberiza striolata*.

Emberiza striolata striolata (Licht.) (Verz. Doubl. Zool. Mus., Berlin, p. 24, 1823—Ambukol in Nubia).
Zarudny records this Bunting also in winter in the Karun District and thinks it may nest there—presumably in the low hills.

33. Reed Bunting. *Emberiza schœniclus*.

Emberiza schœniclus pallidior, Hart. (Vog. Pal. F., p. 197—Aiderli in Turkestan).
The Reed Bunting appears to be uncommon, or very local as a winter visitor. Pitman states that he found a large flock near Kut frequenting some scrub of *Sueda* bushes by the Tigris in January, they were very noisy and shy; otherwise he only met with a single bird at Samarra on December 18th. Cheesman got a specimen at Sheik Saad on December 6th, the bird's head was so covered with ticks that it could hardly fly; Magrath records it at Basra where I saw a single bird in reed beds on November 20th. Zarudny records this race as a winter visitor to the Karun, as also the typical form.

Four specimens examined: Sheik Saad, 6-12-16; Amara, 2-2-18 (P. Z. C. and R. E. C.); Samarra, 13-12-17; Kut, 13-1-17 (C. R. P.)

These all belong to the pale eastern race.

34. Black-crowned Finch Lark. *Pyrrhulauda frontalis*.

This Finch Lark was met with near the oasis of Shaiba on August 12th by Buxton and Cheesman. Logan Hume informs me he saw it in the same district (Rumailah) in June in pairs. It is evidently resident on this edge of the Syrio-Arabian desert and is not recorded from anywhere else in Mesopotamia.

Two skins were obtained, both males, wings 85 and 86.5 mm. and not quite fully grown. These two birds do not match any race of *frontalis* which I have seen, and although I think that the birds, inhabiting Shaiba will prove to be a new race yet I at present hesitate to separate them on only two specimens, as there is in all races a certain amount of individual variation.

This Finch Lark has a very wide distribution, various races ranging from N. E. Africa through Arabia to Baluchistan east to Sind and Punjab.

The following races have been recognized:—

- (1) *P. f. frontalis*, Bp. (Consp. Avium, 1850, p. 512—Nubia). Our birds differ considerably from this in having a more finch like, stumpier, higher bill; a black nuchal spot; greyer rump and upper tail coverts and longer wing.
- (2) *P. f. melanauchen*, Cab. (Mus. Hein. i, 1851, p. 124—Abyssinian coast, Somaliland, etc.).
- (3) *P. f. syncipitalis*, Blyth (Ibis, 1867, p. 185—S. Arabia). Rather near this race but Arabian examples I have seen measure in wing 79-82 mm.
- (4) *P. f. affinis*, Blyth (Ibis, 1867, p. 185, Type Madras (in error!)) I designate Karachi in Sind. Differs from Sind birds in the upper parts being more isabelline washed with grey and with no obsolete dark centres, while the black of the crown and under parts is more intense; the wing is as long or longer. I have however been unable to see any Indian specimens in exactly the same plumage as these Shaiba birds.

The exact determination of this race is of considerable interest and further specimens are greatly desired. Between Shaiba and Persian Baluchistan there are no records of any Finch Lark.

35. Calandra Lark. *Melanocorypha calandra*. "Usawah."

(1) *Melanocorypha calandra calandra* (L.) (Syst. Nat. Ed. xii, p. 288, 1766—Pyrenees).

(2) *Melanocorypha calandra psammochroa*, Hart. (Vog. Pal. F., p. 210—Dur-Badon, Persia).

This is evidently a local bird and much commoner above Baghdad on the uplands than below on the plains. Logan Home says it arrived at Tekrit in December in large flocks and paired off at the end of February; he records that eggs were taken in this district—on March 29th a clutch of five, and another of four at the end of May; at the nest the birds were very tame; one was secured for identification. Cheesman found it plentiful on the hills and plateau at Kalat Sherghat early in December, and at Samarra Pitman saw large flocks and obtained several examples; here he found them in immense flocks from mid-November, when he arrived, till mid-March when he left, though a good many moved away during February. They were very noisy and frequented mule lined, camps, litter roads, etc., and proved excellent eating! In the Adhaim area from September to mid-November and at Feluja from March to April he however never met with it. At Urfa Weigold found this Lark quite common in large flocks on passage in mid-April, but he obtained no specimens. Sassi, who examined four skins from Mosul, considered them to belong to the typical race, not to the eastern.

From Baghdad southwards there are few records; Buxton met with a single bird at Kumait on February 28th and Cheesman found a few small parties at Twin Canals on December 1st. Entering the hill country again Witherby recorded it from Ahwaz on February 26th and Bailey obtained it at Shustar on February 1st. Zarudny lists it as a winter visitor (Karun District).

Eleven skins examined: ♂ ♀, Shustar, 1-2-18 (F. M. B.); 4 ♂, Samarra, 14-12-17; 2 ♀, 4-12-17, 31-12-17 (C. R. P.); ♂, Shergat, 12-188, ♀, Twin Canals, 1-12-16 (P. Z. C. and R. E. C.); one, Kumait, 28-2-18 (P. A. B.).

In determining these birds I have examined a very large series of Calandra Larks. Compared with European and with eastern skins (Persia, Turkestan, etc.), they correspond best with the latter (*psammochroa*), in being paler and yellower, especially on the rump and mantle, than the western race; one must be very careful in comparing these larks to compare birds in a similar state of wear; it is true that *psammochroa* is on the whole a yellower bird than *calandra* but as time goes on (April-May) it also gets very grey, rather a paler grey than the western birds. Some birds partly worn (about December) in both races are difficult to tell and odd ones of our Mesopotamian birds might equally belong to either race. From Pitman's observations it seems probable that some Calandra Larks are winter visitors and it is possible that these belong to the typical race which Sassi too recorded from Mosul.

Birds which I have examined from Palestine (Sharon, Meroni, Bashan and Ludd (10 skins) are quite different to the Mesopotamian birds in being much more rufous brown, and in fresh feathers are very red brown, with red brown flanks; these I take to be Meinerzhagen's *hebraica* (Bull. B. O. C. XLI, p. 21); one bird too from Cyprus and one from Syria match them exactly, other Cyprus birds being *calandra*; on the other hand *psammochroa* is evidently also found in Palestine whence I have seen two examples (Jaffa, March 3rd, and Judaea, February 1st). From Anatolia and Erzeroum I have seen the typical western form. Meinerzhagen (l. c.) seems to think that his *hebraica* has a shorter wing than *psammochroa*; he gives for males 127—131 mm. as against 130—135 mm. in *psammochroa*. With this I cannot agree as those which I have examined of

hebraica run up to 137 mm. Nor can I find any difference in wing measurements between *calandra* and *psammochroa*; in the two sexes the wings range from 118.—142 (22 from Europe) and 120—138 mm. (Persia, Turkestan, etc.). Bills are very variable apart from sex in all these races, some are large, some small; some high and stout; some long and thinner, and I can state with some confidence there is no difference in wing length in the three races.

36. Bimaculated Lark. *Melanocorypha bimaculata*.

Melanocorypha bimaculata bimaculata (Menetr.) (Cat. Rais., p. 37, 1837—Talysh).

The only record of this species is from Cheesman who on April 19th found several pairs evidently breeding in well clothed desert country along the Samarra-Tekrit railway, and obtained a specimen which belongs to the typical form. It has been recorded from Shustar on March 21st and is entered as a winter visitor by Zarudny to the Karun area. As both species of this large Lark breed in Mesopotamia, I must warn oologists, though it should not be necessary, to obtain the bird with any eggs they take.

37. Short-toed Lark *Calandrella brachydactyla*.

(1) *Calandrella brachydactyla brachydactyla* (Leisler). (Ann. d. Wetter. Ges. iii, p. 357, 1814—Montpellier, S. France).

(2) *Calandrella brachydactyla longipennis* (Eversm). (Bull. Soc. Imp. d. Nat. Moskow, xxi, p. 219, 1848—Dzungaria, E. Turkestan).

(1) No observers distinguished between this species and the Lesser Short-toed Lark in the field and so it is impossible to do more than state that Pitman met with a few, which had just arrived, on October 16th and 17th at Samarra and obtained two specimens belonging to this race. Weigold got several specimens in the Urfa district where he says it was very common between April 18th and May 2nd.

The status requires further investigation.

(2) Cumming obtained a typical specimen of this race at Fao on September 25th, 1886. It is in the British Museum where I have examined it.

38. Lesser Short-toed Lark. *Calandrella minor*.

(1) *Calandrella minor heinei*. (Hom.) (J. F. O., 1873, p. 197—Volga).

(2) *Calandrella minor minor* (Cab.) (Mus. Hein. I, p. 123, 1851—N. E. Africa).

(1) Pitman's notes apparently mostly refer to this race of which he obtained a large series. He says they arrived in large flocks about the middle of October and from the 26th onwards thousands were passing to the south in the Samarra district. They were exceedingly plentiful in this district from mid-November till the middle of February when they began to disappear and by the end of the month most had gone. A few were noted on March 15th—19th in the Baghdad area and the last recorded was on the 23rd at Feluja. During the winter at Samarra they frequented a bare plain where there had been grass, etc., in flocks of thousands and were distinguished by their noisy chirping and dipping flight.

Buxton says this race was not common round Amara itself but he found it common in small flocks out in the desert among *Sueda* bushes in winter. It is probably common in suitable places throughout the country. I obtained one from a large flock of mostly *minor minor* at Basra on November in a short grass field and Cheesman obtained several specimens on the Tigris in the Shiek Saad—Azizieh district.

19 specimens examined: Samarra district, 26-10 to 21-12-17 (11 skins) Feluja, 23-3-17 (2 skins) (C. R. P.); Amara, 16-12-17 (P. A. B.); ♂ Azizieh, 3-1-19 (2 skins); Shiek Saad, 1-11-16; Twin Canals, 1-12-16 (P. Z. C. and

R. E. C.); ♂ Basra, 21-11-17. (C. B. T.) Wings measure, ♂ ♀ 90-103. This race is greyer and less red-brown than *m. minor*.

(2) The status of this race is obscure. Cheesman obtained one from a flock at Kasimain in the desert on March 5th and one of Pitman's Samarra birds on November 4th on which day he got also *heinei*, I refer to this race; probably they flock together in winter as I obtained twelve specimens out of a huge flock at Basra on November 21st and from the same flock one typical *heinei*. Cumming obtained two at Fao on August 26th and September 25th, 1886.

Zarudny records *minor* and *persica* from the Karun district in winter and on passage; no specimens of ours are referable to *persica*. ♂ 92-95.5; ♀ 87.5-91 mm.

Some sort of Short-toed Lark, whether of the *minor* or *brachydactyla* group is not known, breeds, according to Cheesman, on the undulating uplands above Tekrit.

39. Desert Lark. *Ammomanes deserti*.

Ammomanes deserti fraterculus, Trist. (P. Z. S. Lond., 1864, p. 434—Palestine). (I restrict this to "Wilderness of Judea".)

The Desert Lark occurs in at least four areas in Mesopotamia but whether all belong to the same species or race is not known. It is fairly common in the Tekrit-Adhaim area frequenting bare plain or rocky ground and is evidently resident and breeds there, as L. Home found them in pairs on the Tekrit uplands in May and found several nests, and Pitman and Cheesman met with it in this district in winter in pairs or small parties. It probably occurs in the foot hills up to the Kurdistan boundary. Pitman notes that it can always be distinguished in the field by its querulous piping note.

A Desert Lark occurs on the western side of the Euphrates in the Museyib district north of the Kerbela canal, where Pitman saw a few in June. Logan Home records it from the desert west of the Euphrates at Rumailah on June 5th, where it was evidently breeding. Zarudny says *fraterculus* is resident in the Karun foot hills. All our specimens come from the Tekrit-Adhaim area and all belong to the Palestine form *fraterculus*, but it does not at all follow that the birds from the Syrio-Arabian desert (west of the Euphrates) also belong to this form; they may even belong to a race of the other species *phænicura*, and therefore specimens from this desert are highly desirable.

Buxton too informs me that one he obtained at Kasr-i-Sherin just over the Persian frontier on the Kermanshah road does not belong to the form *fraterculus* nor to any race of which there are specimens in British or Tring Museum. Further specimens from this neighbourhood also are *desiderata*. The Desert Larks are peculiarly local birds in their racial forms and though one may have one race of wide distribution, abutting on its area may be another race whose distribution is very local, and therefore the determination of this Lark in Mesopotamia cannot be fully made out until specimens are forthcoming from every district in which it occurs.

Nine specimens examined: Baït-al-Khalifa, 19-12-17 (two); Shat-al-Adhaim, 2-10-17 (two); (C. R. P). ♂ ♀, Samarra, 30-11-18; ♂, Tekrit, 17-4-19. (P. Z. C. and R. E. C.).

These are in no way distinguishable from specimens from the Dead Sea and Wilderness of Judea.

40. Crested Lark. *Galerida cristata*.

Galerida cristata magna, Hume (Ibis, 1871, p. 407—Yarkand).

This may be said to be the commonest and most generally distributed bird in Mesopotamia, frequenting almost every kind of ground, though naturally scarcer in quite bare desert and thick scrub; even the oases have their pair of Crested Larks, about the only resident birds they can boast. It is resident throughout the whole district, but its numbers are augmented in winter by immigrants from

elsewhere (as noted by Buxton and Pitman), flocks being seen in February when most of the resident birds have paired off; Cumming, who noted the same thing at Fao, states that these winter visitors come in August and leave in April.

The breeding season commences at the end of March; the earliest nest contained three eggs on the 30th. Pitman, who found 39 nests, says many have nests and some are sitting by the middle of April and he notes young hatched on May 29th; so that it seems certain that at least two broods are hatched out. The usual clutch is four or five and Logan Home several times found six in a nest. The nest, rather untidy and scanty, consists of dry bents, dirty straw, etc., and is placed in any convenient hollow such as a hoof mark, under a tuft of grass, or on bare ground concealed by grass, clods of earth, or bushes.

As in other races, this bird is a mimic of other birds. Pitman noted that it often perches on walls, low bushes, telegraph wires, etc., and does good by feeding on the maggots of flies. Many of them are subject to attacks by ticks and are much affected by heat, and then they seek the shade of tents and water courses in lieu of trees.

Thirty-five skins examined: From every month except May, June and September and from throughout our area from Samarra in the north to Basra and Shustar in the south; 20 males, 8 females, 7 unsexed.

Wings of males 107—113 mm., of females 98·5—104 mm. Bills (exposed) both sexes 17—18·5 mm., 19—22·5 mm. from base.

These Crested Larks are so near *magna* that I hesitate to separate them and with this Dr. Hartert agrees. If anything they run rather smaller than the majority of *magna* but there is a big overlap. Wings of *magna* (Afghanistan, Beluchistan, etc.) which I have measured run 105—117 (once 120 mm.) and it will be seen that some of our Mesopotamian birds are smaller than this and none reach the extremely large measurements some *magna* shew. In coloration fresh moulted birds are quite like fresh moulted *magna*, but when a little worn most of our birds seem a trifle browner, less sandy yellow on the upperparts and the larger markings of these parts make them appear somewhat darker. One must allow for a certain amount of individual variation and certainly a good many of our birds could not be picked out from a series of *magna*. I have compared our series with the topo-types of *brachyura*, *ivanowi* and *subtaurica* and they certainly do not belong to any of these races. In *Orn. Monats*, 20, Kolibay separated as *weigoldi* the Crested Lark from Urfa (on one pair and two of doubtful sex).

I have seen no specimens from this place but from the description they appear to be the same birds as ours. If any one considers the above characters as sufficiently distinctive then our Crested Lark must stand as *weigoldi*, but I am inclined to treat this name as a synonym of *magna*.

41. Sky Lark. *Alauda arvensis*.

- (1) *Alauda arvensis dulcivox*, Brooks (Stray Feathers, i, p. 484, 1873—Alpine region of N. India).
- (2) *Alauda arvensis cantarella*, Bp. (Icon. F. Ital. Uccelli, Introd. p. 5 1832—41 Italy).

The Sky Lark is a common winter visitor to the Mesopotamian plains frequenting desert, plough and green crops, preferring open country to gardens. It arrives at the end of October and Pitman on the Adhaim river noted flocks flying south till November 7th. It is recorded from most suitable localities as far south as Amara and it is probably pure chance that there are no records from Basra district, as it occurs at Ahwaz and Bushire. Cheesman says that the Sky Lark is a serious pest in some districts, as at Sheik Saad, where large flocks cleared off acres of beet root and cabbage seedlings; no method of prevention was found to be efficacious, both guns and two men per acre to scare the birds off proving useless; he noted however that seedlings with more than four leaves are practically immune. The only plan which seems to offer

any solution would be to sow the seeds a little earlier so that all the plants have more than four leaves before the Sky Larks arrive, though whether this is possible or not I leave to the agriculturists. Logan Home noted that in the Tekrit area they often associated with Calandra Larks.

The Sky Larks leaves again in March, many have gone by mid. March and all have departed by the end of the third week.

Thirty skins examined November to March, but many of them were in poor condition and the determination of the races in some has been very difficult or impossible. There is no doubt however that the majority belong to the grey eastern form *dulcivox*, and that this is the commonest of the two races. Eight birds I refer to the South-East European race *cantarella* which is rather darker. Zarudny records both races for the Karun district in winter and Neumann records *A. arborea cinerea* (a mis-print for *A. arvensis cinerea* from Ras-el-Ain. 15 specimens of *dulcivox* measure :—Wing 105—120 mm.

Of recent years the name *cinerea* (or *cinerascens*) of Ehmeke has been used for this grey Eastern Sky Lark which is the breeding bird of West Siberia, Turkestan, etc., and quite incorrectly as I believe. Brooks (S. F. i, p. 484) described a Sky Lark, clearly of the *arvensis* group, from the Alpine region of North India as *dulcivox*. His description agrees well with the Siberian bird and he did not say nor is there any proof that his *dulcivox* was breeding in the Himalayas*. Most of the older records of Sky Larks breeding in this region were muddled up with *gulgula* and so far as I have been able to ascertain no *arvensis* breeds in the alpine regions of North India except perhaps locally in Cashmere, and these seem to me to be in no way different from the Siberian breeding birds, hence *cinerascens* must give place to the much older name of *dulcivox* for this race.

42. Wood-Lark. *Lullula arborea*.

? *Lullula arborea pallida*, Zar. (Orn. Monat., 1902, p. 54—(Mountains of Transcaspia.)

This species was perhaps overlooked by most observers as there are only records from Amara, where Cheesman and Buxton found it plentiful in small parties on the river banks from November to February 10th, 1918. I have no other records from Mesopotamia. Zarudny includes it as a breeding species in the Zagros and Khorasan districts.

Four specimens examined; these are paler above, especially on the rump than the typical race from western Europe and the underparts not so yellow below, in fact barely tinged with yellow. Similarly pale winter birds are to be found in Palestine, the Taurus and Syria. Woodlarks are exceedingly difficult birds to determine races of as each month's wear makes such a great difference in the plumage, but these four skins are distinctly paler than West European ones at the same time of the year and it is probable that an Eastern race should be recognized and so I place them under Zarudny's name *pallida* tentatively, as I have not seen any birds from Transcaspia.

43. Bifasciated Lark. *Alaemon alaudipes*.

Alaemon alaudipes pallida, Blyth (J. A. S. B. xvi, p. 130, 1847—Ullah Bund in Sind.

So far as records go this lark is only found on the desert on the west side of the Euphrates and Shat-al-Arab; Cheesman, who travelled extensively throughout the country, failed to meet with it elsewhere. Cheesman and Buxton met with it fairly commonly at Shaiba in June (breeding) and in August; Logan Home at Rumailah on June 5th saw half grown young; Cheesman saw it near Nasariyeh, and Harrison at Ramadi in October. Pitman came across it twice, west

* He clearly considered (Ibis, 1892, p. 61) that the Punjab *arvensis*, the "big grey skylark" which comes to the plains in winter, was *dulcivox*.

of Museyib, June 12th and a few miles west of Baghdad on May 28th, the only trans-Euphrates record. Cumming got it at Fao and Woosnam records it from the coastal plain of N. W. Bushire. It is probably resident where it occurs, and a true denizen of bare desert. Buxton notes that at Shaiba the desert is very slightly covered with pebbles, otherwise it resembles the desert in other parts of the plain. It is rather remarkable that its range should be so restricted, but in Sind I have found it a very local bird, so possibly it may yet be proved to inhabit other parts of the plain, indeed Zarudny records it from his "Mesopotamian region" which in this paper I have referred to as Karun district. Cheesman says he was often deceived by the note of this bird which is like the whistle of a school-boy.

Eight specimens examined: ♂ Shaiba, 1-6-18, ♀, 5-9-16, ♂, 11-9-16 (P. Z. C. and R. E. C.); ♂ Shaiba, 12-8-18, 22-8-18, ♀, 12-8-18 (P. A. B.); 2 Fao in B. M.

The worn breeding birds are very grey above; August birds in moult, with body feathers almost perfect, vary much in colour; a male, shot on the same day as a female in similar state of plumage, is much more washed with grey on the upperparts than the latter, in which sandy isabelline predominates; so that evidently one must be very guarded in depending on colouration in determining the races of these birds, and not only does individual variation have to be considered but the effect of wear, as in time the grey wash and the isabelline tone both get worn off leaving a pronounced grey colour. These birds match a series from Karachi very well. Wings ♂ 132-138, bill (exposed) ♂ 26-28, from base 32-33, ♀ 24-25, from base 30.5 mm. These are smaller measurements than Hartert gives (Vög. Pal. F., p. 251), but I find Karachi birds measure almost precisely the same.

44. Shore Lark. *Eremophila alpestris*.

Eremophila alpestris vilophia, Temm. (Fl. Col., 244, 1823—Akaba in Arabia)

Pitman was the only observer who came across the Shore Lark in Mesopotamia; he first noted a flock of six on December 12th, feeding on the parade ground at Samarra away from the Sky and Short-toed Larks. He saw others at the same place in January and also a flock of 20 or 30 out in the desert near the camp, while on February 9th, a large flock was met with at Daur.

Five specimens examined: ♂ ♂ ♀, Samarra, 30-12-17, ♂ ♀, 12-12-17 (C. R. P.). I cannot separate these from specimens from Algiers, Tunisia, Morocco and the Dead Sea. Wear often makes the upperparts a more orange-rust colour and less vinaceous pink.

45. Water Pipit. *Anthus spinoletta*.

(1) *Anthus spinoletta blakistoni*, Swinh. (P. Z. S., 1863 p. 90—R. Yangtze, China).

(2) *Anthus spinoletta coutellii*, Savig. (Desc. de Egypte, XXXIII, p. 360, 1828—Egypt).

There are remarkably few field notes about the Water Pipit, which is a fairly common winter visitor. A fair number winter in Mesopotamia but more are to be met with at the times of spring and autumn migrations, coming from and going to places further south. Buxton noted it as common in flooded places on the grass farm at Amara in November and December, and I found it common though exceedingly wild in similar situations at Basra in November. The spring passage appears to take place during the last week in March.

Sassi records *coutellii* from Mosul in January and Zarudny both races in the Karun district as winter visitors and passage migrants.

Thirteen specimens examined: *blakistoni*—♂, Amara, 7-11-17, 10-12-17, 26-2-18, ♀, 7-11-17; ♂ ♀, Baghdad, 22-3-18; ♂, Kurna, 17-3-18; Aligharbi,—3-3-18 (P. A. B.); ♂, Sheik Saad, 25-3-17 (P. Z. C. and R. E. C.) *coutellii*. Sheik Saad, 23-3-17, ♂ 22-3-17 (P. Z. C. and R. E. C.); intermediate ♂, Twin Canals, 2-12-16 (P. Z. C. and R. E. C.); Hawi Plain. 13-12-17 (C. R. R.).

The majority are *blakistoni*, so apparently this race is the commoner. I have examined a large series of both races from topo-type localities and it is by no means easy to separate out individual birds; the most typical *coutellii* with the warmer brown upperparts, especially the rump, come from Egypt and Persia: probably the breeding area of this race is small compared with that of *blakistoni*, which has an enormous breeding range in Central Asia and is a very wide migrant. So that it is not to be wondered at that numerically *coutellii* gets swamped by its paler ally in its winter quarters. Of the thirteen specimens I regard nine as *blakistoni*, two as *coutellii* and two are somewhat intermediate between the two.

I find no difference in size in these two races; a topo-type series of *blakistoni* measure 84-93 mm. (often 92-93), of *coutellii* 82-94 mm.

46. Meadow Pipit. *Anthus pratensis*.

Anthus pratensis, L. (Syst. Nat. Ed. X, p. 166, 1758—Sweden).

The various Pipits were so mixed up by so many observers that their status is a matter for further investigation. The Meadow Pipit would appear not to be very common, neither Buxton nor Cheesman met with it, nor did Cumming at Fao. Pitman obtained four skins at Samarra between December 14th and March 8th and I found it not uncommon in small flocks frequenting damp places in fields at Basra on November 20th and March 19th and obtained specimens on each day.

Zarudny records *A. pratensis enigmaticus* as a winter visitor and passage migrant in the Karun district. I do not know this bird, which Zarudny described from Tashkent in Turkestan; the Mesopotamian birds agree well with European ones, and I suspect *enigmaticus* is really *cervinus*, which Zarudny omits from his Mesopotamian list.

47. Tree Pipit. *Anthus trivialis*.

Anthus trivialis trivialis, L. (Syst. Nat. Ed. X, p. 16, 1758—Sweden).

Cumming records this Pipit at Fao on spring and probably autumn passage. Pitman found it fairly common at Nahr Umar on March 26th, 1917, and obtained specimens there and at Feluja on March 29th the next year; Cheesman obtained one at Basra on April 18th, Buxton records it from Amara on September 28th. Zarudny records it as a passage migrant in the Karun district and Weigold notes it on passage on April 10th as not rare in the oasis and gardens at Urfa, where there were still some on April 27th; they were in flocks and the sexual organs were not developed. It breeds on the south coast of the Black Sea (Woosnam).

48. Red-throated Pipit. *Anthus cervinus*.

Anthus cervinus, Pall. (Zoog. Rosso-Asiat. i., p. 311, 1827—Siberia).

One obtained by Cheesman at Sheik Saad on April 3rd and two shot by Pitman at Feluja on April 16th, where he found it plentiful from 14th—17th., are our only records. Tomlinson records that he obtained one at Shustar on April 19th, and one at Basra on November 21st.

49. Tawny Pipit. *Anthus campestris*.

Anthus campestris campestris, L. (Syst. Nat. Ed. X, p. 166, 1758—Sweden).

The Tawny Pipit is a common winter visitor to the plains. Unlike most of the other Pipits it affects dry places and is to be met with in scrub, and desert where a little scrub is to be found; it is found singly or at the most in pairs. It occurs from Fao and Shustar in the south northwards everywhere in suitable localities and Weigold records it from Urfa. The dates of arrival were not noted but there are specimens obtained as late as April 5th and Weigold met with it as late as the 23rd. According to Woosnam it probably breeds at Lake Van in Armenia.

Six specimens examined: ♀, Amara, 16-1-18; ♂, Legait, 2-3-18 (P. Z. C. and R. E. C.); ♀, Feluja, 29-3-18; Nahr Umar, 5-4-18 (C. R. P.); ♂, Amara, 23-12-17—16-12-17 (P. A. B.).

All belong to the typical race.

50. Richard's Pipit. *Anthus richardi*.

Anthus richardi richardi, Vieill. (Nouv. Dict. d'Hist. Nat. XXVI, p. 491, 1818—France).

Recorded by Zarudny as a winter visitor to the Karun district.

51. Plain Pipit. *Anthus sordidus*.

Anthus sordidus decaptus, Meinerz. (Bull. B.O.C. CCLIII, p. 23, 1920—Rud-i-Taman, E. Persia).

Apparently a winter visitor in quite small numbers, as there is only one specimen—obtained by Buxton at Amara on February 11th; he met with three or four in a ploughed field and remarks he had not seen it before. No one else records it but some may have mistaken it for the Tawny Pipit to which it bears some resemblance in general appearance and habits. Zarudny records it from the Karun district in winter.

Hartert (Vög. Pal. F., p. 269) separated the Palestine race of this Pipit as *A. leucophrys captus*. It is now generally recognized that it must stand as a race of the N. E. African bird, *A. sordidus*. Hartert gave the distribution of *captus* as Palestine, Persia, Afghanistan, Beluchistan and Sind. Meinerzhagen who recently got a good series of these birds in Palestine has pointed out however that the Palestine birds are smaller than those from further east and gives the wing measurement of the Palestine birds as 90-95mm. and in the eastern race, which he calls *decaptus*, the wing measures 95-106 mm. Buxton's bird, a female, has a wing of 97 and so clearly belongs to the eastern form.

52. Grey Wagtail. *Motacilla cinerea* (= *boarula* auct.).

Motacilla cinerea cinerea, Tunst. (Ornit. Britain, p. 2, 1771—Gt. Britain).

A winter visitor in small numbers, the first arriving at the end of August, and it is widely distributed in suitable places throughout our area. Most depart by the end of March and the latest date is April 11th; before they leave they assume full breeding dress. Weigold got three skins at Urfa in April and records that they are intermediate between *cinerea* and *melanope* and possibly an intermediate form occurs on the boundary between these two races, as the tails of his specimens, somewhat abraded, are shorter (93-95 mm.) than in any *cinerea*. He does not know if the Grey Wagtail breeds at Urfa.

Five skins examined: ♂ Kurna, 20-3-18, T. 100 (P. A. B.); ♂, Sheik Saad, 22-3-17, ♂ T. 98, 2-4-17, T. 98.5; ♂ Shaiba, 13-9-16, T. 100 (P. Z. C. and R. E. C.); Samarra, 13-12-17, T. 97 (C. R. P.).

None of these differ in any way from and all have as long tails as British ones.

53. Black-headed Wagtail. *Motacilla feldegg* (*melanocepala* auct.). "Zit-ziata."

Motacilla feldegg feldegg, Michah. (Isis, 1830, p. 812—S. Dalmatia).

This Wagtail is an exceedingly abundant passage migrant throughout the country; the earliest date is March 13th and fair numbers may be seen throughout the rest of the month. Cheesman saw flocks of Wagtails, many being of this species going north at Sheik Saad in the third week of March, the males preceding the females. Huge flocks pass through in April but most have gone on by the third week. It probably breeds not far off as Pitman saw it at the Euphrates Barrage on July 8th, 1917, and many at Baghdad on the 18th.

Buxton also found a few in rice-fields by the Hawazieh swamp on July 12th and one obtained was an adult male in very worn dress and just beginning to moult.

Magrath too found it on the Saweikieh marsh in short grass in mid-July while Logan Home records three or four seen and one shot (unfortunately the skin was lost) at Abu Aran, 40 miles from Busra, on June 26th. So it is quite within the bounds of possibility that it even breeds in the plains. Zarudny says it breeds in the Zagros and winters on the Karun; we have no winter records.

During their passage they affect any damp ground, particularly crops such as wheat, grass, rice, etc., and associate with other Wagtails. Curiously enough there are no specimens or records in autumn but the latter may be included under *flava*.

Nine specimens examined: ♂ ♀ Amara, 24-3-18; ♂ Kurna, 17-3-18; ♂ Hawi-ziel, 12-7-18 (P. A. B.); ♂ Sheikh Saad, 27-3-17, 20-3-17, ♀ 25-3-17 (P. Z. C. and R. E. C.); ♂ Feluja, 21-3-27 (C. R. P.).

Wings 82-85. Tail 70-76 m.m.

The white chin and moustachal streak in *melanogriseus* are rather inconstant characters and some *feldegg* shew them; *melanogriseus* usually has a shorter wing and tail; thus within the range of both forms one may meet with single birds which are indeterminate and one or two of the above could not be picked out from a series of *melanogriseus*, possibly both races do occur, but a larger series are required to determine this.

I think it is perhaps better to treat the Black-headed Wagtails as a separate species and not as a race of the Blue-headed.

54. Blue-headed Wagtail. *Motacilla flava*.

- (1) *Motacilla flava dombrowskii* (Tschusi) (Orn. Jahrb, xiv, 161, 1903—Roumania).
- (2) *Motacilla flava thunbergi*, Billb. (Synop. Faun. Scand., 1, 2, Aves, 1828, p. 50—Lappland (*borealis* auct)).
- (3) *Motacilla flava campestris*, Pall. (Russ. Reichs, iii, p. 696, 1776—E. Russia).
- (4) *Motacilla flava flava*, L. (Syst. Nat. Ed., x, p. 185, 1758—S. Sweden).
- (5) *Motacilla flava leucocephala*?, Przew. (Zap. Imp. Akad. Nauk. St. Petersburg, lv., p. 85, 1887—Dzungaria (Altai)).

The records are not always separable into the different races unless born out by specimens. The commonest form would seem to be *dombrowskii* and all races are passage migrants.

(1) This race appears on passage about the same time as *feldegg* and mixes freely with it. Cheesman found it common at Sheikh Saad in the last week of March and obtained specimens. Pitman got four at Feluja during a big rush of mixed Yellow Wagtails on April 15th to 18th. Yellow Wagtails of sorts were passing along the line of the Jebel Hamrin range at Fatah Gorge on April 18th. On the return passage Yellow Wagtails were noted in the first week of August and became commoner in the second and third weeks.

Many pass in September; Cheesman noted the gardens at Sheikh Saad full of them on the 14th, and on 16th at Shaiba, flocks were travelling north low over the desert against the wind, these had probably made a turn in their migration to gain the river and avoid the desert.

Pitman saw flocks passing near Baghdad going S. E. on September 9th and again at Adhaim on 24th. Buxton noted many passing through Kut during the first week in September and many at Amara during the third week and up to October 3rd; after this there are odd records up to the 10th. Other forms are doubtless included in the above autumn notes.

About 15 skins of this race examined: ♂, Baghdad, 18-9-17, 19-9-17; ♂, Amara, 14-9-18, 9-9-18. (P. A. B.); ♂, Sheikh Saad, 27-3-17; (two) 31-3-17, (two) (P. Z. C. and R. E. C.); ♂ ♀, Feluja, 17-4-17, ♂ 16-4-17, and several other females on same date as males.

The males in spring are very distinctive; the white chin is fairly constant, white moustache rather variable, supercilium broad and distinct (noticeable in the field), sometimes tinged with yellow; ear-coverts are very dark blackish-slate mixed with white. The females which I have presumed to be of the race have a clear supercilium white or buffish white: dark brown lores, ear-coverts and head. The adult male in autumn is not unlike the spring bird, but the head not so pure a dark grey, ear coverts dark brown mixed with a little white and the yellow breast has a gorget of dark spots, as in many other forms.

(2) Records of this race cannot be picked out. Probably it is fairly common at the same times of passage as the other Wagtails.

Buxton obtained two males at the Hamar Lake on May 18th from a party and Pitman got one at Feluja on April 14th, one obtained by Buxton at Baghdad on October 3rd I am inclined to think belongs to this race; it is a male with brown head and ear coverts, a white throat and hardly a trace of any supercilium.

(3) All that can be said of this race is that it is a fairly common passage migrant along with the other forms. Cheesman obtained one at Sheik Saad on March 27th when many Wagtails were on passage and two at Amara on April 19th and 20th where, with Buxton, he found them abundant in young wheat. Venning obtained one at Sheik Saad on April 11th. All these are adult males quite easily recognized of course by the large amount of yellow on the head. Two obtained by Buxton at Amara on September 9th I attribute to this race, the chin and supercilium are yellow and the head brown tinged with yellow.

(4) Apparently the typical form is rare; I can only attribute to this race one obtained by Cheesman at Sheik Saad on April 3rd, yet this is the only form of Blue-headed Wagtail mentioned by Zarudny!

(5) I only include this to draw attention again to this remarkable form (if a good race it be and not a partial albinism). Pitman says that at Feluja on April 16th among the thousands of Yellow Wagtails present he saw two birds which corresponded exactly to the description of this bird, that is, a Blue-headed Wagtail in which white, or nearly white, replaces the blue of the head and ear-coverts. Unfortunately he did not obtain it. This race is so rare that one cannot help being suspicious that it is only a partial albinism of a commoner race.

55. White Wagtail. *Motacilla alba*.

- (1) *Motacilla alba alba*, L. (Syst. Nat. Ed., x., p. 185, 1758—Sweden).
- (2) *Motacilla alba dukhunensis*, Sykes (P. Z. S., London, 1832, p. 91—Deccan of India).
- (3) *Motacilla alba persica*, Blanf. (E. Persia, ii, p. 232—Niriz, east of Shiraz).

White Wagtails are abundant winter visitors to the whole of our area. The first arrive in the first days of October but it is not until the latter half of the month that they become numerous, and then in suitable localities settle down singly or in quite small parties for the winter. Probably also it is a bird of passage as Pitman at Kut noted an increase early in March; by the end of this month they have become quite scarce again but a few may be found well on into April and according to Cumming at Fao occasionally early in May. This species was a constant attendant at the trenches, attracted by the hosts of flies and was but little perturbed by gun fire.

Races of course were not distinguished in the field but I think it can be safely said that the European race is the commonest; Witherby referred most S. W. Persian birds to *alba* as does Sassi 6 skins from Mosul.

Eleven skins examined:—*Alba*, ♂, Amara, 12-12-17; Baghdad, 6-10-17; ♀, Azizieh, 17-11-18 (P. A. B.); Shustar, 8-2-18; (F. M. B.) Sheik Saad, 26-3-17, ♀, 4-4-17, ♂, 10-2-17. (P. Z. C. and R. E. C.). *Dukhunensis*—Amara, 11-2-18; ♀, Baghdad 31-3-18, (P. A. B.) Sheik Saad, 18-12-16 (P. Z. C.) and R. E. C.; Shustar n. d. (F. M. B.).

These specimens of *dukkumensis* have rather paler upperparts and *much* broader margins of white on the coverts and tertials than *alba* has. Other races were reported by various observers at different places, but in the absence of specimens I must omit *personata* altogether and the same remark applies to *lugubris*, which Meinerzhagen (Ibis, 1914, p.390) said he found to be common—a bird *most* unlikely to occur. However *persica* certainly occurs at Ahwaz; Woosnam got one there on February 27th and Zarudny records it as a winter visitor.

56. Large Rock Nuthatch. *Sitta neumayer*.

Sitta neumayer dresseri, Zar. and But. (Orn. Monats, 1906, p. 132—Mountains of S. W. Persia).

Buxton found Rock Nuthatches common in the gorge of the Diala river, where it cuts through the Jebel Hamrin, on November 22nd and Cheesman obtained this race at Kasir Sherin on May 22nd just over the Persian frontier in this district. Probably it occurs in suitable places all along the Jebel Hamrin as Baily obtained it at Shustar on February 7th. Cheesman found them in pairs on overhanging rocks near the rivers and says their call is like that of the English Nuthatch only louder.

Zarudny says it is resident in the Karun district, in the hilly parts only of course.

One skin examined: Shustar, 7-2-18 (F. M. B.). Wing 90, Bill from base 28.5mm.

57. Small Rock Nuthatch. *Sitta rupicola*.

Sitta rupicola tschitscherini, Zar. (Orn. Jahrb., 1904, p. 218—Ispahan).

This species, which in some parts at all events lives alongside the Large Nuthatch, is recorded by Zarudny as a resident in small numbers in the Karun district. We have no certain records of it. For a full account of Persian Rock Nuthatches, see Bull. B. O. C. celi, pp. 135-9, where Buxton points out the very interesting fact that in N. W. Persia there are two kinds differing much in size but not in colour and in S. W. Persia these are replaced by two very pale subspecies also differing from each other in size but not in colour.

58. Great Tit. *Parus major*.

Parus major blanfordi, Prazak (Orn. Jahrb. v., p. 240, 1894—Teheran in Persia).

The Great Tit only occurs so far as we know at present in the Khusistan part which for zoological purposes I have included in Mesopotamia. Cheesman met with a family party at Shush in willow jungle by the Kerkha river where it evidently breeds. Woosnam also obtained it at Dizful and Shush in March. Zarudny gives it as a winter bird in this area.

Zarudny and Loudon (Orn. Monat., xiii, 1905, p. 108) separated the Great Tit of S. W. Persia (type locality Zagros Mts.) as *zagrossiensis* and gave a number of characters by which it differed from the typical race, *P. major*, of Sweden. I must here point out and protest against what is a not uncommon practice amongst some continental (and even some British) ornithologists and that is comparing some supposed new race, *not* with its nearest ally, but with something totally different. Now all Great Tits from the Persian plateau south to Khusistan differ very markedly from Swedish birds and it is fairly obvious that, if birds from the Zagros are thought to be different to the former, it is with the Teheran *blanfordi* that they should be compared, and not with the Swedish birds.

Now I have compared 15 birds from Shush, Dizful, Shiraz, with a dozen or more from Teheran, Kasvin, Kermanshah, and I cannot see the slightest difference between the two series. The differences which Zarudny and Loudon give between *zagrossiensis* and *major*, when applied to the former and *blanfordi* I find either hold good in both or are inconstant in both. I consider that *zagrossiensis* is a pure synonym of *blanfordi*.

Great Tits from the South Caspian forest I consider to be inseparable from the typical form, an opinion I believe Buxton independently has come to.

59. Penduline Tit. *Anthoscopus pendulinus*.

Anthoscopus pendulinus persimilis, Hart. (Novit. Zool., xxv., p. 308, 1918—Eregli, Asia Minor).

The Penduline Tit appears to be a rare winter visitor to Mesopotamia. Buxton met with a family party in a *ziziphus* tree in a garden at Amara on October 25th and another party at Ali Gharbi on poplar scrub on November 17th. Venning obtained one at Busra on April 21st.

Three specimens examined. This Tit appears to take 15 months to become adult, that is to say, to become adult at the second autumn moult, unless it has a spring moult, of which I have seen no evidence in a good many examined. Two of the above specimens are in the first winter dress without the distinctive adult markings; the Basra bird is adult, but nearly all the feather on the head have slipped! so that the determination of the race is a difficult matter. They certainly do not belong to the typical race as they are too small and pale. They also are not *juvarensis*. They agree very well with Hartert's *persimilis*, specimens of which from Kaisarieh and Lake Urmia I have compared them with, in size of wing, paleness, and, as far as I could make out in the single adult, in their having the chestnut line above the black forehead very narrow. Zarudny has not made matters any easier by recording the typical form and *P. caspius* as winter visitors to the Karun district and afterwards (Mess. Orn., 1913) describing a new race, *menzbieri*, from the same district! According to him *menzbieri* has a wider frontal chestnut band than the typical race which *persimilis* certainly has not. There appears to be no proof that any *Anthoscopus* breeds in the Karun district.

60. Lesser Grey Shrike. *Lanius minor*.

Lanius minor, Gm. (Syst. Nat. I., p. 308, 1788—Italy).

This is a passage migrant in small numbers from Urfa in the north to Fao in the south where Cumming noted it as passing in March to May and again in September; most appear to pass through in the last half of April. It comes back again early, during the third week of August, and the passage lasts until the third week in September. Possibly some breed in Mesopotamia as Sassi records one from Pechabour near Mosul on June 1st. Zarudny says it nests in small numbers in the Zagros.

Specimens examined: ♀ Sheik Saad, 14-4-17; Tekrit, 17-4-19. (P. Z. C. and R. E. C.); ♂, Amara, 14-9-18 (P. A. B.); ♂ Basra, 20-8-19 (L. Home).

61. Great Grey Shrike. *Lanius excubitor*.

(1) *Lanius excubitor pallidirostris*, Cass. (Proc. Acad. Philad. v., p. 244, 1852—E. Africa).=*Assimilis* auct.)

(2) *Lanius excubitor aucheri*, Bp. (Rev. and Mag. Zool., 1853, p. 294—Persia).=*fallax* auct.)

The status of the Great Grey Shrikes of Mesopotamia is rather obscure; records refer to Grey Shrikes without discrimination of races of course, and some may even refer to the Lesser Grey Shrike, so that I must go almost entirely on skins. Of fourteen specimens examined three are *aucheri* and the rest *pallidirostris*; all were obtained in winter.

The Great Grey Shrike is probably a winter visitor, a few arriving in September, most of them early in October. Cheesman obtained *pallidirostris* at Shaiba on September 11th and Cumming got one at Fao also in September (erroneously recorded by Sharpe as *fallax*). All the others were got between October and February though Grey Shrikes are noted up to March 8th. They are widely distributed, singly and sparsely, inhabiting gardens but more especially thin scrub on the desert, or even quite bare desert. Of the 3 examples of *aucheri*

two were obtained in October and the third bears no date. It seems certain that some kind of Grey Shrike nests in the Mesopotamian plain. Pitman records it between Baghdad and Musejib from July 14th onwards frequenting telegraph wires near some gardens, and Logan Home says he found an unfinished nest at Samara, whilst Livesay took Grey Shrikes' eggs. I must here remark that it is perfectly useless taking the eggs of any Grey Shrike without obtaining the bird, and it may even be misleading.

Zarudny records *aucheri*, *pallidirostris*, and *assimilis* (which he considers to be distinct from the latter) as winter visitors to the Karun district and *pallidirostris* as a resident on the Zagros.

(1) Kumait, 27-2-18, 13-11-17, ♂ Amara, 16-12-17 (P. A. B.); Shaiba, 11-9-16 (P. Z. C. and R. E. C.); Shat-al-Adhaim, 3-10-17, 8-11-17; Baghdad, 31-12-17 (C. R. P.).

(2) Baghdad; 10-10-17 (P. A. B.); Shat-al-Adhaim, 3-10-17 (C. R. P.).

Aucheri have a distinct but narrow frontal line of black, grey on the sides of the breast and a large wing spot and usually no pink tinge on the breast; in *pallidirostris* the pink tinge on the breast is well marked as a rule unless faded, no frontal black, smaller or no wing spot, usually paler upperparts and a more distinct supercilium; the young birds in winter have the grey of the back overlaid with a pale sandy colour and appear to lack the dark crescent markings most other races shew.

62. Woodchat Shrike. *Lanius senator*.

Lanius senator niloticus, Bp. (Rev. Zool., 1853, p. 439—White Nile).

This is a much earlier passage migrant in spring than the Masked Shrike and occurs in smaller numbers. Buxton first saw a few males at Amara on March 13th and after that date there are numerous records throughout the plains up to April 27th. The first autumn record comes from the oasis of Shaiba on August 9th and the passage lasts up to the middle of September, again no great numbers being recorded. Tomlinson in remarking that the species is not uncommon in spring says it also probably breeds up the Karun river as he saw it there early in June. Zarudny does not record it as nesting there, but says a few winter there! Here again, as so often, our records do not at all tally with Zarudny's. Woosnam got one on the Shuteit River on March 8th. The status of this and other Shrikes in the breeding season requires further investigation. Zarudny says it breeds commonly in the Zagros.

Ten specimens examined: Amara, 18-4-19 (L. Hoome); Amara, 13-3-18; ♂, Basra, 19-8-19; ♀, Kurna, 17-3-18 (P. A. B.) ♂, Baghdad; 19-3-18 (Harrison); ♂, Shaiba, 8-9-16; ♂, Sheik Saad, 5-4-17 (P. Z. C. and R. E. C.), 2. Feluja, 27-4-17 (C. R. P.); ♀, Basra, 17-3-18 (C. B. T.).

All are typical *niloticus* with much white at the base of the tail; only in one does the white not extend beyond the coverts.

63. Masked Shrike. *Lanius nubicus*.

Lanius nubicus, Licht. (Verz. Doubl., p. 47, 1823—Nubia).

This species is a common spring and autumn migrant; first few noted on April 17th at Tekrit and Urfa; at Feluja and Amara a sudden and marked influx took place on the 23rd and for a fortnight it was quite common. It occurs throughout the region south to Fao. The return passage takes place at the end of August and lasts till the third week in September. Pitman noted that this Shrike was shy and retiring making all use of thick foliage for concealment, not a usual habit in Shrikes, and not universal with this species. Possibly a few pairs remain to breed in the plains as Buxton records it in the first two weeks of June at Amara and on June 17th saw a bird carrying food or nest material. Ward (*Field*, Jan. 18th, 1919) records it as common at Samara breeding in the scrub. Zarudny says it breeds commonly in the Zagros.

Eleven skins examined: ♂, Basra, 19-4-17; ♂, Sheik Saad, 31-4-18 (P. Z. C. and R. E. C.); ♀, Amara 23-4-18, 1-5-18; ♂, Baghdad, 12-9-17 (P. A. B.); Basra, 6-5-19 (L. Home); Feluja ♀, 23-4-17 (two), 27-4-17 (C. R. P.); ♂ Sheik Saad, p. 2-5-17 (Robinson); Baghdad, 7-9-17 (Ingoldby).

64. Red-backed Shrike. *Lanius collurio*.

Lanius collurio, L. (Syst. Nat. Ed., x., p. 94, 1758—Sweden).

The Red-backed Shrike is also a passage migrant in large numbers. The first few males arrive in the last days of March and small numbers are to be met with throughout April, but it is not until towards the end of the month and the early part of May that they pass through in any quantity, when they become very common and are widely distributed. The return passage begins in the last days of August and they quickly become common and soon pass on, our latest date being September 24th, though Cumming at Fao recorded it up to mid-November. Weigold found it common on spring passage at Urfa and remarks that of his numerous specimens some are typical *c. collurio*, some typical *c. kobylini* and four are intermediate. This latter race was named by Buturlin (Ibis, 1906, p. 416—Kutais in S. Caucasus) as Zarudny's name *fuscatus* for the eastern race was preoccupied, but I must point out that Zarudny in employing this name used *Enneactonotus* as the generic name, and that if this genus is used for the Red-backed Shrike, as it is by some, Zarudny's name must be upheld; if however *Lanius* is preferred then Buturlin's name should stand. On points like this, and they are always arising, there can never be any uniformity of nomenclature or finality, unless every one agrees on the limitations of genera!

This supposed eastern race is said to differ in the rather paler and restricted amount of the chestnut colour of the mantle. As Weigold remarks one often cannot measure this as it is quite indefinite where the colour begins and ends, and as he says some are intermediate. The truth is *kobylini* is a thoroughly bad race!

I have examined six spring males from Kutais, Caucasus and North Persia and about eight spring males from Mesopotamia (which one may suppose should also belong to this race), together with a large series of European males and I find that the shade of the chestnut colour and its width vary very much both in eastern and European examples; it so happens that in the Kutais birds it is broad! and in the Caucasian bird very dark! I cannot see any distinguishing character between birds from the east and west; the bills too vary very much in size throughout the range of the species.

Seventeen specimens examined ♂ ♀, Amara, 7-5-18; ♂ ♂, Baghdad, 31-8-17, ♂, 24-9-17 ♀, Amara, 6-5-18, 16-4-19 (P. A. B.); ♀ ♀, Fao, 10-5-18 (Armstrong); ♂, Feluja, 24-4-17, ♂, 21-4-17, ♀, 23-4-17 (C. R. P.); Basra, 6-5-19 (L. Home); Tekrit, 17-4-19, ♂, Sheik Saad, 10-9-17 (P. Z. C. and R. E. C.); ♂, Sulimania; 2-9-17 (Ross).

65. Red-tailed Shrike. *Lanius cristatus*.

(1) *Lanius cristatus isabellinus*, H. and E. (Symb. Phys. fol. e. Anm., 1828—Gonfode in Arabia).

(2) *Lanius cristatus phoenicuroides*, Schal. (J. F. O., 1875, p. 148—Tschimkent).

The two races were naturally not identified in the field and records are scanty; judging from specimens obtained *isabellinus* is a common winter visitor arriving during the last ten days of September, though one or the other form occurs at the beginning of the month. It frequents thorny scrub or gardens singly, or two or three in near proximity; it leaves again somewhat late in the spring (the latest specimen is April 29th), completing its body moult in February and March before departure.

All the specimens (six) of *phoenicuroides* were obtained during the spring and autumn; Pitman noted that Red-tailed Shrikes were abundant in the Adhaim area in the first ten days of October and after that only a few were seen; three specimens he obtained about that time were *phoenicuroides* and as no specimens were got between October 12th and early April, during which period 8 specimens of *isabellinus* were obtained, it is extremely suggestive that the former is only a bird of passage—as I know to be the case elsewhere. Since all Red-tailed Shrikes were found commoner in spring and autumn, *isabellinus* may too be in part a passage migrant. *phoenicuroides* was obtained at Fao as late as May 25th; it nests in the Zagros according to Zarudny. From a specimen of *isabellinus* I took a parasitic worm from under the skin behind the eye, a situation I have often found similar parasites in *collurio*. Dr. Manson Bahr informs me this is a *filaria* and the intermediate host is the feather louse.

Zarudny goes to far extremes in the recognition of racial forms and in some cases at all events his "races" are nothing but individual variations; this "oversplitting" and lack of proper conception of what a racial form is brings this important part of ornithology into disrepute (there are still some who "do not believe" in the existence of the most obvious subspecies), and moreover gives an infinite amount of unproductive and needless toil to those who later work in the same field; work which in some cases is impossible as his specimens are ungetable in Tashkent and many of his descriptions are written in Russian! His treatment of the Red-tailed Shrikes is a case in point. These Shrikes throughout their range divide into five fairly well marked races, two of which only concern us—*phoenicuroides* and *isabellinus* (both of which vary somewhat individually). These two Zarudny makes into full species:—*isabellinus* with two races, *speculigera* and *salina*; and *phoenicuroides* also with two races *caniceps* and *varia*—all six forms to be found in Persia and all except *varia* and *salina* inhabiting the Karun district in winter!

(1) Eighteen specimens examined: ♂, Amara, 25-10-17, 25-4-18, 26-10-18, 1-12-17, 5-1-18; ♂, Baghdad, 21-9-17; L. Akkarkus, 12-10-17; Ezra's Tomb, 23-2-18 (two) (P. A. B.); Abed, 9-2-18 (F. M. B.); Kamisiyeh, 7-1-17 (Aldworth) Fehuja, 24-4-17, 29-4-17 (C. R. P.); ♂ ♀, Basra, 21-11-17 (C. B. T.); ♀, Sheik Saad, 31-3-17; ♂, Kut, 1-10-18 (P. Z. C. and R. E. C.); Gurmat Ali, 26-9-20.

(2) Five examined: ♂, Fao, 25-5-18 (Armstrong); ♂, Sheik Saad, 4-4-19 (P. Z. C. and R. E. C.); Adhaim, 2-10-17, 12-10-17, 27-9-17 (C. R. P.).

One *isabellinus*, 25-10-17, has much juvenile plumage still present. It rather resembles juvenile of *collurio*, but the tail is longer and there is no white on the outer web of the outer tail feathers and it is paler grey on the back.

(To be continued.)